XR-6700

SERVICE MANUAL

US Model
Canadian Model

Model Name Using Similar Mechanism	XR-C210
Tape Transport Mechanism Type	MG-50EX2-39

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
7 watts per channel minimum continuous average power into 4 ohms, 4 channels driven from 20 Hz to 20 kHz with no more than 1% total harmonic distortion.

Other Specifications

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	30 – 18,000 Hz
Signal-to- noise ratio	

Cassette type	Dolby NR off	Dolby B NR
TYPE II, IV	61 dB	67 dB
TYPE I	58 dB	64 dB

Tuner section

FM

Tuning range	87.5 – 107.9 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	13 dBf
Selectivity	70 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.5 % (stereo), 0.3 % (mono)
Separation	33 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

AM

Tuning range	530 – 1,710 kHz
Antenna terminal	External antenna connector
Intermediate frequency	450 kHz
Sensitivity	32 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	25 W × 4 (at 4 ohms)

General

Output lead	Power antenna relay control lead/Power amplifier control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 188 × 58 × 176 mm (7 1/2 × 2 3/8 × 7 in.) (w/h/d)
Mounting dimension	Approx. 182 × 53 × 155 mm (7 1/4 × 2 1/8 × 6 1/8 in.) (w/h/d)
Mass	Approx. 1.2 kg (2 lb. 10 oz.)
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/AM CASSETTE CAR STEREO

SONY®

使用時は取付資料も参照のこと
Refer to the applicable documents

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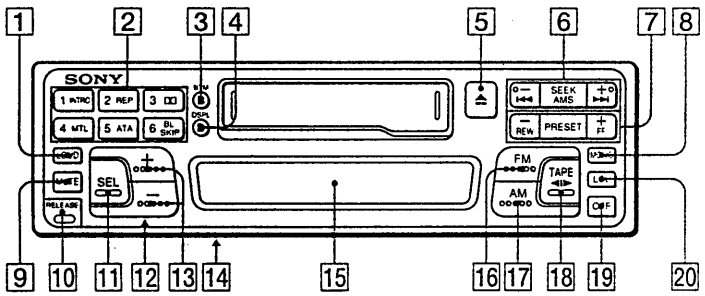
Location of Controls



Refer to the pages in ● for details.

1 LOUD (loudness) button ❾

2 During radio reception:
Preset number buttons ❽

During tape playback:

1 INTRO INTRO button ❼

2 REP REPEAT button ❼

3 DD (Dolby B NR) button ❻

4 MTL MTL (Cassette type select) button ❻

5 ATA ATA (Automatic Tuner Activation) button ❼

6 BL SKIP BL.SKIP button ❼

3 BTM (Best Tuning Memory) button ❽

4 DSPL (display mode change/time set) button ❺

5 ⏏ (eject) button ❻❾

6 SEEK/AMS button ❻❼

7 PRESET button ❻❼❽❾

8 MONO button ❼

9 MUTE button ❾

10 RELEASE (front panel release) button ❹❿

11 SEL (control mode select) button ❺❾❿

12 Reset button (located on the front side of the unit hidden by the front panel) ❹
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

13 (volume/bass/treble/balance/fader control) buttons ❺❾

14 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/connections manual.

15 Display window

16 FM (radio on/band select) button ❻❼❽

17 AM (radio on/band select) button ❻❼❽

18 TAPE/◀II▶ (playback/transport direction change) button ❻

19 OFF button ❹❻❾

20 LCL (local seek adjust) button ❼

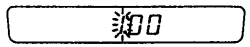
Setting the Clock

The clock has a digital indication.

For example, setting it to 10:08

1 Display the time.
(Press the DSPL ⏲ button during unit operation.)

2 Press the DSPL ⏲ button for more than two seconds.



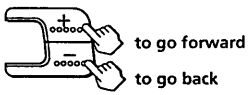
The hour digit(s) blinks.

Set the hour digits.

3 Press the SEL button momentarily.

The minute digits blink.

Set the minute digits.



4 Press the DSPL ⏲ button momentarily.

The clock activates.

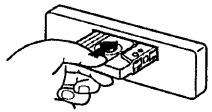
Note
If the POWER SELECT switch on the bottom of unit is set to the B position, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio, or started cassette playback.

This section is extracted from instruction manual.

Cassette Player Operation

Listening to Tape Playback

After inserting the cassette, playback will start automatically.



If a cassette is already inserted, press the [TAPE] button to start playback.
If you press this button during playback, the tape transport direction will change.

Indication of Tape Transport Direction

The side facing up is being played.

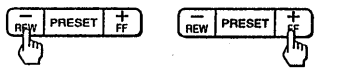
The side facing down is being played.

To stop playback,
eject the cassette by pressing the [⏏] button or press the OFF button.
Playback also stops when you select the radio by pressing the [FM] or [AM] button.

Ejecting the Cassette

Press the [⏏] button.

Fast-winding the Tape



Rewind Fast-forward

To start playback while rewinding or fast-forwarding, press the [TAPE] button.

Playing a Tape Recorded in the Dolby B NR System

Press the [3 DOLBY NR] button when you want to listen to a tape recorded in the Dolby B NR system. → "DOLBY NR" appears in the display.
To cancel, press again.

Playing a CrO_2 or Metal Tape

Press the [4 MTL] button when you want to listen to a CrO_2 (TYPE II) or metal (TYPE IV) tape. → "MTL" will appear on the display.
To cancel, press again.

Locating the Beginnings of Tracks

— AMS (Automatic Music Sensor) Function

During playback, press either side of the SEEK/AMS button once for each track you wish to skip.

To locate previous tracks To locate succeeding tracks

Up to nine tracks can be skipped.

If the blanks between the tracks are shorter than four seconds, or if there are noises, the AMS function will not work properly. Also, the unit may read long sections of low volume music or quiet sections on a track as blanks between tracks.

Searching for the Desired Track — Intro Scan Function

Press the [1 INTRO] button during playback. → "INTRO" appears on the display.
The first 10 seconds of all the tracks are played. When you find the desired track, press the button once more. The unit returns to normal playback mode.

Playing Tracks Repeatedly

— Repeat Play Function

Press the [2 REP] button during playback. → "REP" appears on the display.
When the currently played track is over, it will be played again from the beginning.
To cancel this mode, press the button again.

Radio Reception during Fast-forwarding or Rewinding of a Tape

— ATA (Automatic Tuner Activation) Function

Press the [5 ATA] button during playback. → "ATA" appears on the display.
When fast-forwarding or rewinding with the [REW PRESET FF] button, the tuner will turn on automatically.

Skipping Blanks Automatically during Tape Playback — Blank Skip Function

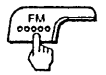
Press the [6 BL SKIP] button during playback. → "BL.SKIP" appears on the display.
Blanks longer than eight seconds will be automatically skipped during tape playback.

Radio Reception

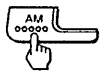
Searching for Stations Automatically

— Automatic Tuning

1 Select the desired band.



FM1 → FM2 → FM3 → FM1 → ···



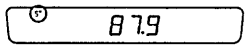
AM1 ⟷ AM2

2 Press either side of the SEEK/AMS button once to search for the next station (automatic tuning).

For lower frequencies For higher frequencies

The scanning stops when a station is received. Press either side of the button repeatedly until the desired station is received.

When an FM stereo program with sufficient signal strength is tuned in,



The "ST" indication appears.

To keep the automatic tuning from stopping on stations too frequently (local seek mode), press the [LCL] button momentarily to get the "LCL" indication.
Only the stations with relatively strong signals will be tuned in. The local seek mode functions only when automatic tuning is in operation.

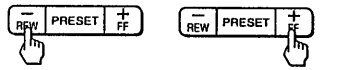
If FM Stereo Reception is Poor — Monaural Mode

Press the [MONO] button momentarily. → "MONO" appears on the display.
The sound will improve, but it will be monaural.

Tuning in by Adjusting the Frequency — Manual Tuning

1 Select the desired band.

2 Press and hold either side of the PRESET button.
Release the button when the desired station is received.



For lower frequencies

For higher frequencies

PREVENT ACCIDENTS!
When tuning in while driving, use automatic tuning or the memory preset search function (page 9) instead of manual tuning.

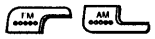
EN

Memorizing Stations Automatically

— BTM (Best Tuning Memory) Function

This function selects from the currently received band the stations with the strongest signals and memorizes them in the order of their band frequency.

1 Select the desired band.

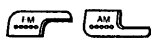


2 Press the BTM button for more than two seconds.
- When there is no preset number indicated in the display window, stations will be stored on all preset number buttons on the currently selected band.
- When there is a preset number indicated in the display window, the unit will store stations on all preset number buttons from the one currently displayed.

For example, when you select FM2 and preset number 3 is displayed,
the operation will start from preset number 3 on FM2, and will stop at preset number 6 on FM3.

Memorizing Only the Desired Stations

1 Select the desired band.



2 Tune in the station which you wish to store on a preset number button.

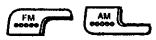
3 Press and hold the desired preset number button (1 INTRO to 6 BL SKIP) for about two seconds until you hear a beep tone.

The number of the pressed preset number button appears on the display window.

Up to 6 stations on each band (FM1, FM2, FM3, AM1 and AM2 can be stored on the preset number buttons in the order of your choice. Therefore, 18 FM stations can be memorized.
If you try to store another station on the same preset number button, the previously stored station will be erased.

Receiving the Memorized Stations

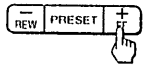
1 Select the desired band.



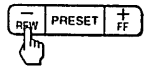
2 Press momentarily the preset number (1 INTRO to 6 BL SKIP) button on which the desired station is stored.

Note
If you press the preset number button for more than two seconds, the currently received station will be memorized. To receive the previously memorized station, make sure that the preset number button is pressed only momentarily.

Press either side of the PRESET button momentarily to receive other stations stored in the memory (Preset Search Function).



Press momentarily
1 → 2 → ··· → 5 → 6 → 1 → ···



Press momentarily
1 → 6 → 5 → ··· → 2 → 1 → ···

Other Functions

Adjusting the Sound Characteristics

1 Select the item you want to adjust by pressing the SEL button repeatedly.

VOL (volume) → BAS (bass) → TRE (treble) → BAL (balance) → FAD (fader) → VOL (volume) → ···

2 Adjust the selected item by pressing either the + or − button.

Adjust within three seconds after selecting. (After three seconds the buttons will again serve as volume control buttons.)

Enjoying Bass and Treble at Low Volume

— Loudness Function

Press the LOUD button. → "LOUD" will appear on the display.
The bass and treble will be boosted.
To cancel, press again.

Muting the Sound Quickly

— Mute Function

Press the MUTE button. → The "MUTE" indication flashes.
The sound is muted at once.
To restore the previous volume level, press again.

This function will be also canceled when:
— the + or OFF button is pressed.
— ejecting a cassette by pressing the ⏏ button during tape playback.

EN

Radio Reception/Other Functions

Connections

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**

If Your Car has No Accessory Position on the Ignition Key Switch — POWER SELECT Switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch**. To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ⓑ position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

Note

The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ⓑ position.

Connexions

Précautions

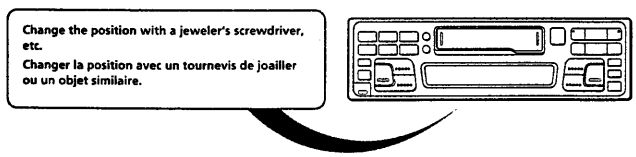
- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres branchements.
- Veiller à ne pas raccorder le fil rouge d'entrée d'alimentation à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoire.
- **Rassembler tous les fils de terre en un point de masse commun.**

Si l'appareil est utilisé dans une voiture dont la clé de contact n'a pas de position accessoire — Interrupteur POWER SELECT

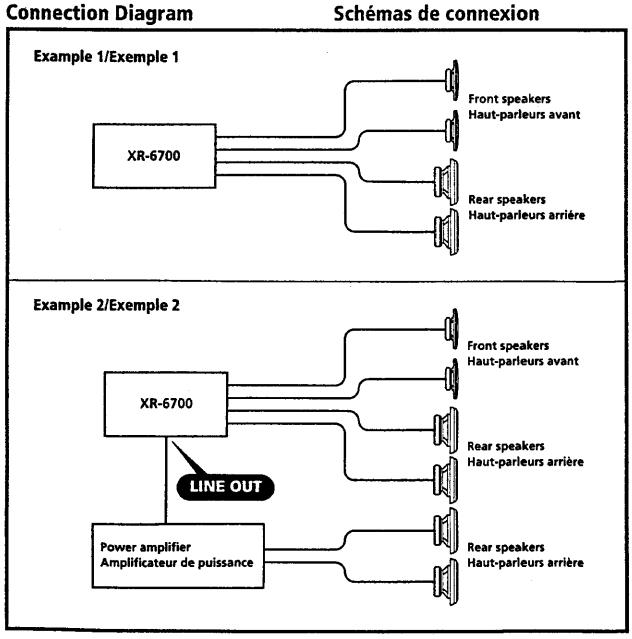
L'éclairage du panneau avant est réglé en usine de manière à s'allumer même quand l'appareil ne fonctionne pas. Cependant, ce réglage risque d'épuiser la batterie **si l'appareil est utilisé dans une voiture dont la clé de contact ne possède pas de position accessoire**. Pour éviter d'épuiser la batterie, régler l'interrupteur **POWER sur le socle de l'appareil sur la position ⓑ, puis appuyer sur la touche de réinitialisation**. L'éclairage est réglé pour rester éteint quand l'appareil n'est pas utilisé.

Remarque

Quand l'interrupteur POWER SELECT est réglé sur la position ⓑ, l'avertisseur du panneau avant ne fonctionne pas.


Change the position with a jeweler's screwdriver, etc.
Changer la position avec un tournevis de joaillier ou un objet similaire.

Connection Diagram / Schémas de connexion

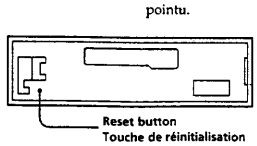


Reset Button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc.

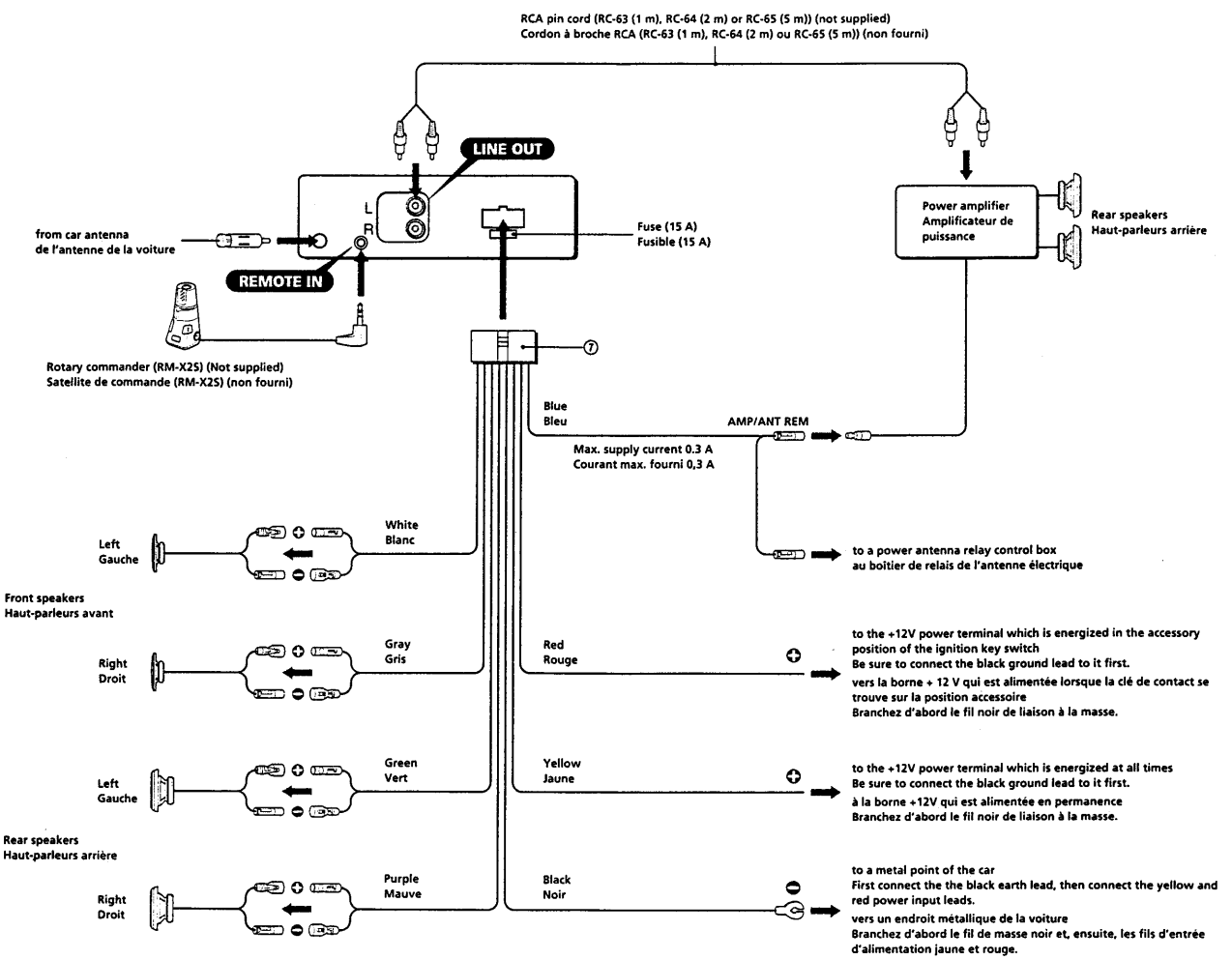
Touche de réinitialisation

Quand l'installation et les connexions sont terminées, appuyer sur la touche de réinitialisation avec un stylo bille ou un objet pointu.



Connections of Example

Connexions de l'exemple


RCA pin cord (RC-63 (1 m), RC-64 (2 m) or RC-65 (5 m)) (not supplied)
Cordon à broche RCA (RC-63 (1 m), RC-64 (2 m) ou RC-65 (5 m)) (non fourni)
LINE OUT
L
R
from car antenna
de l'antenne de la voiture
REMOTE IN
Fuse (15 A)
Fusible (15 A)
Power amplifier
Amplificateur de puissance
Rear speakers
Haut-parleurs arrière
Rotary commander (RM-X2S) (Not supplied)
Satellite de commande (RM-X2S) (non fourni)
⑦
Blue
Bleu
AMP/ANT REM
Max. supply current 0.3 A
Courant max. fourni 0,3 A
to a power antenna relay control box
au boîtier de relais de l'antenne électrique
Left
Gauche
White
Blanc
Front speakers
Haut-parleurs avant
Right
Droit
Gray
Gris
Red
Rouge
to the +12V power terminal which is energized in the accessory position of the ignition key switch
Be sure to connect the black ground lead to it first.
vers la borne + 12 V qui est alimentée lorsque la clé de contact se trouve sur la position accessoire
Branchez d'abord le fil noir de liaison à la masse.
Left
Gauche
Green
Vert
Yellow
Jaune
to the +12V power terminal which is energized at all times
Be sure to connect the black ground lead to it first.
à la borne +12V qui est alimentée en permanence
Branchez d'abord le fil noir de liaison à la masse.
Rear speakers
Haut-parleurs arrière
Right
Droit
Purple
Mauve
Black
Noir
to a metal point of the car
First connect the the black earth lead, then connect the yellow and red power input leads.
vers un endroit métallique de la voiture
Branchez d'abord le fil de masse noir et, ensuite, les fils d'entrée d'alimentation jaune et rouge.

Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation) function.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Remarques sur les fils de contrôle

- *Le fil de contrôle de l'antenne électrique (bleu) fournit du courant continu de +12 V quand le tuner est mis sous tension ou quand la fonction ATA (Automatic Tuner Activation) est activée.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

Connexion pour la conservation de la mémoire

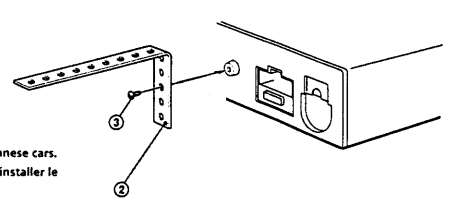
Lorsque le fil d'entrée d'alimentation jaune est connecté, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Remarques sur la connexion des haut-parleurs

- *Avant de raccorder les haut-parleurs, mettre l'appareil hors tension.*
- *Utiliser des haut-parleurs ayant une impédance de 4 à 8 ohms et une capacité adéquate sous peine de les endommager.*
- *Ne pas raccorder les bornes du système de haut-parleurs au châssis de la voiture et ne pas connecter les bornes du haut-parleur droit à celles du haut-parleur gauche.*
- *Ne pas tenter de raccorder les haut-parleurs en parallèle.*
- *Ne pas raccorder des haut-parleurs actifs (avec amplificateurs intégrés) aux bornes de haut-parleur de l'appareil sous peine de les endommager. Veiller à raccorder des haut-parleurs passifs à ces bornes.*

Remarque sur le raccordement

Si l'alternateur génère des interférences (pleurage lorsque le régime moteur augmente), reliez l'appareil principal à la masse en le raccordant à un point métallique de la voiture au moyen du fil de masse pour châssis fourni. Raccordez le fil de masse à l'appareil principal à l'aide d'une vis ③. (Voir illustration.)

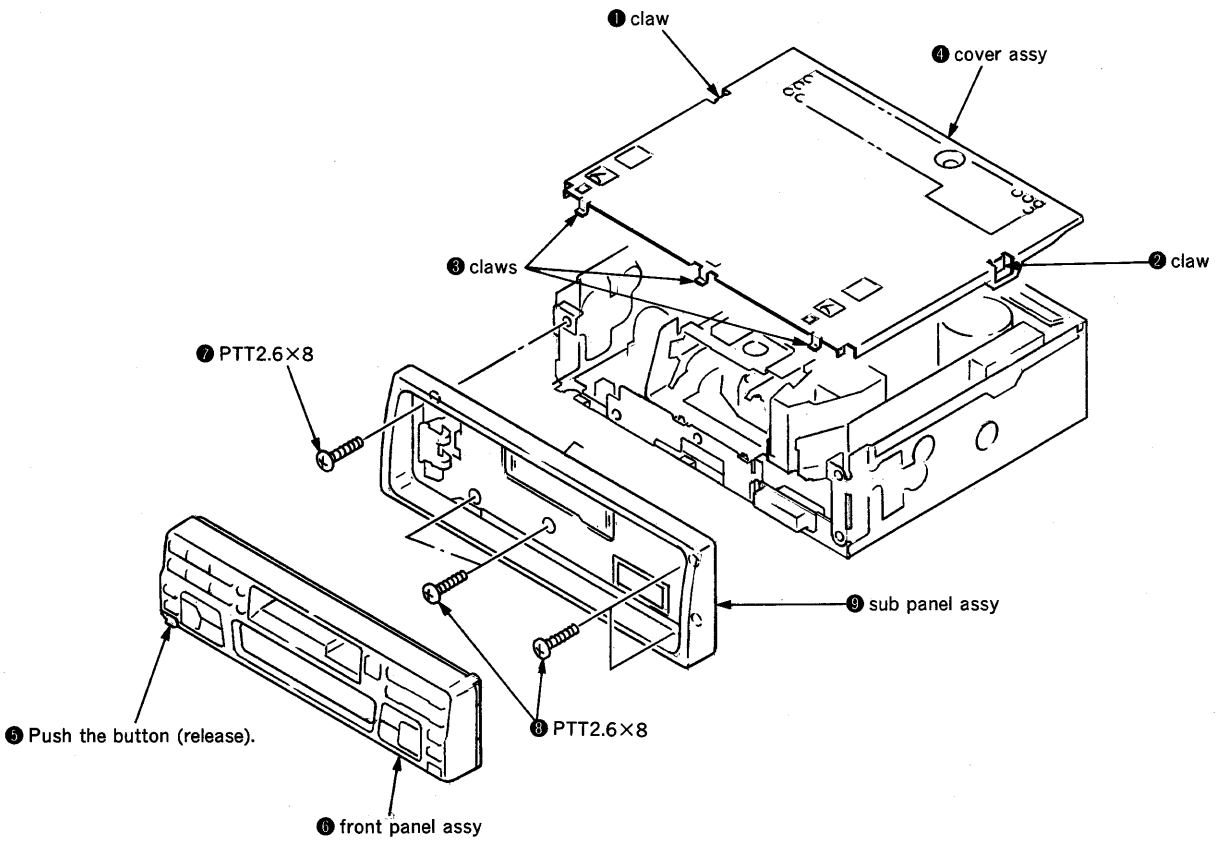


It is not necessary to install the bracket ② with Japanese cars.
Sur les voitures japonaises, il n'est pas nécessaire d'installer le support de montage ②.

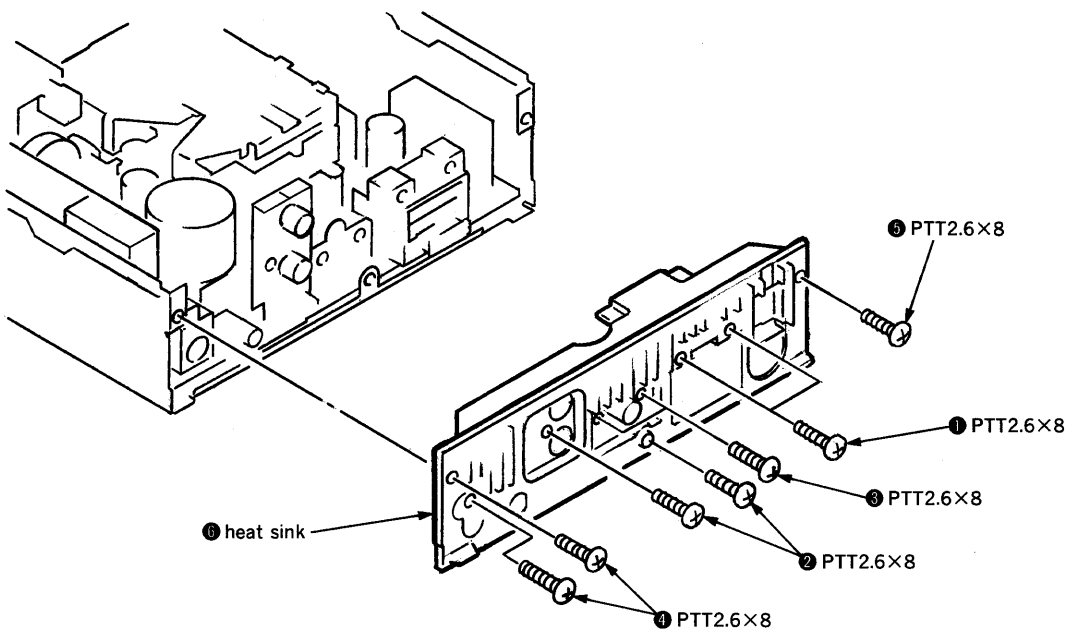
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

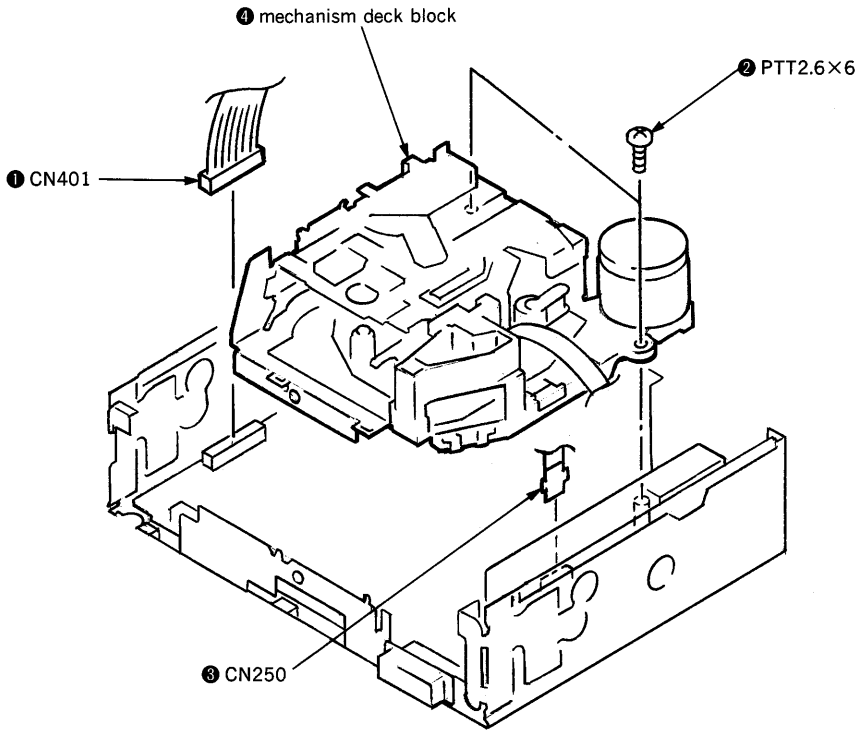
2-1. SUB PANEL ASSY



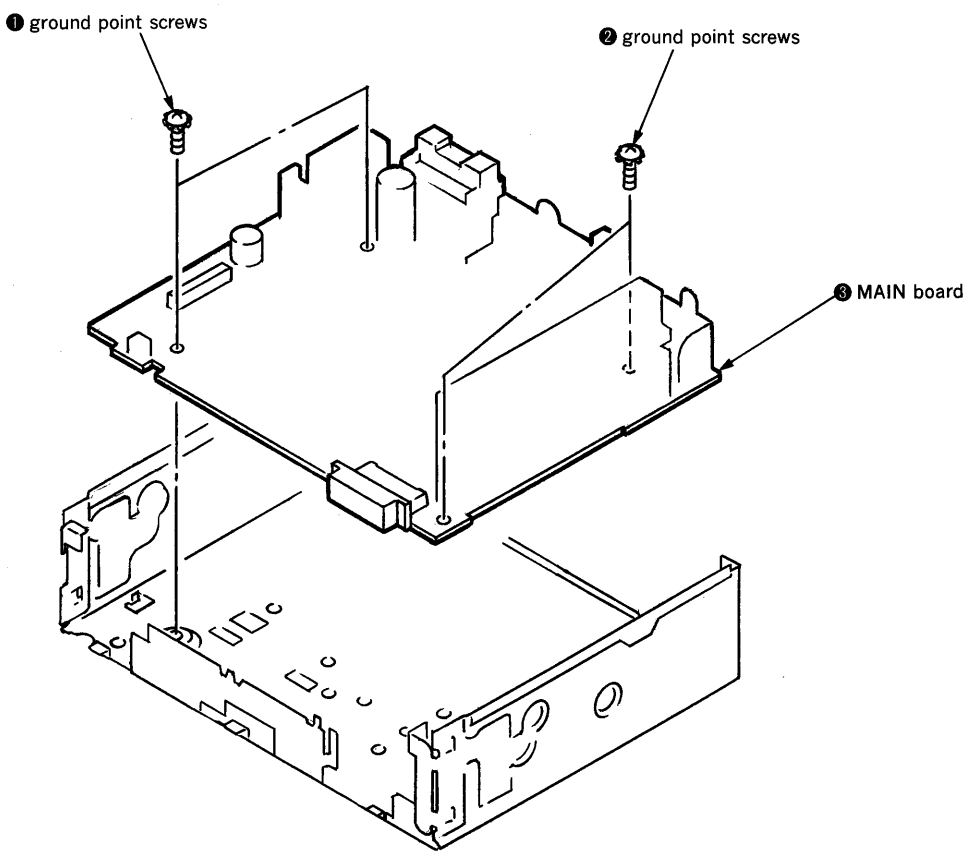
2-2. AMPLIFIER BOARD



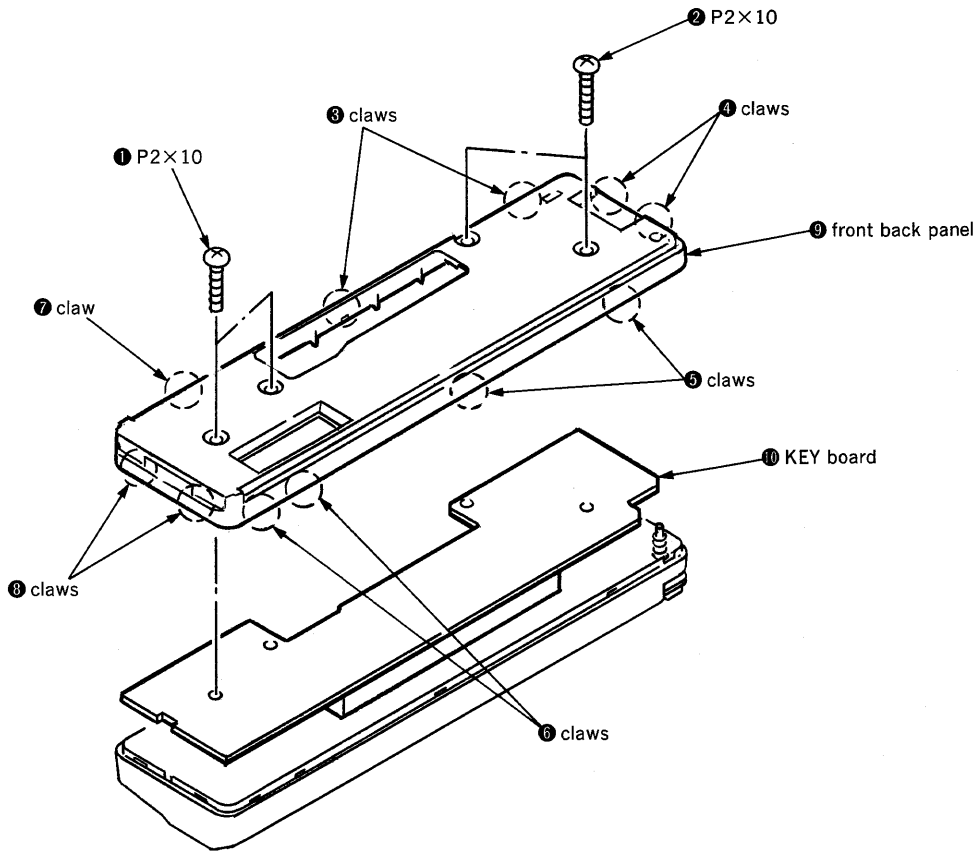
2-3. MECHANISM DECK BLOCK



2-4. MAIN BOARD



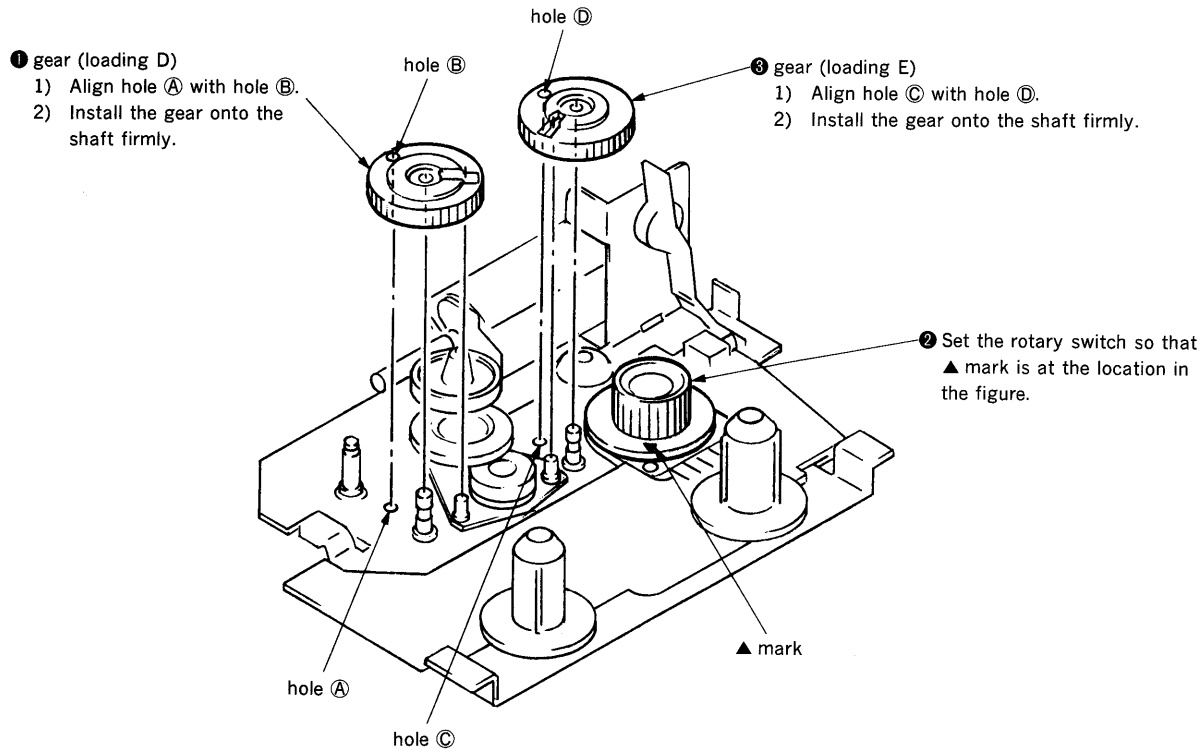
2-5. KEY BOARD


❷ P2×10
❸ claws
❹ claws
❶ P2×10
❾ front back panel
❼ claw
❺ claws
❿ KEY board
❽ claws
❻ claws

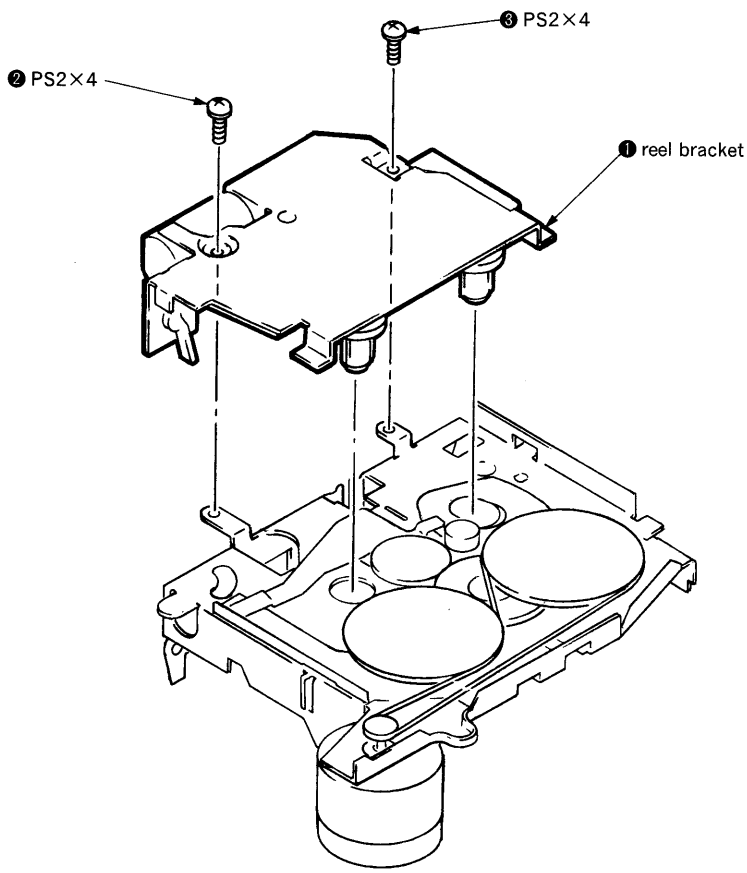
SECTION 3
ASSEMBLY OF MECHANISM DECK

Note : Follow the assembly procedure in the numerical order given.

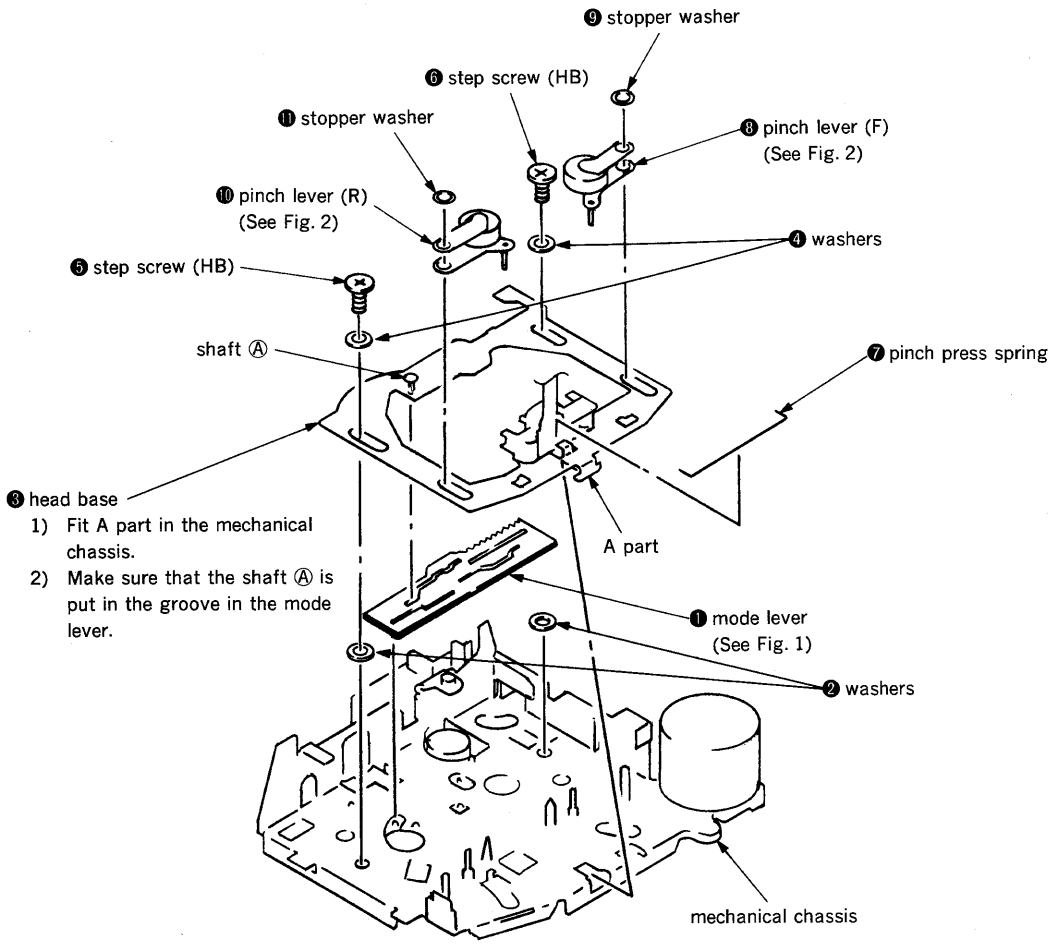
3-1. INSTALLING THE LOADING GEARS


❶ gear (loading D)
1) Align hole Ⓐ with hole Ⓑ.
2) Install the gear onto the shaft firmly.
hole Ⓑ
hole Ⓓ
❸ gear (loading E)
1) Align hole Ⓒ with hole Ⓓ.
2) Install the gear onto the shaft firmly.
❷ Set the rotary switch so that ▲ mark is at the location in the figure.
▲ mark
hole Ⓐ
hole Ⓒ

3-2. INSTALLING THE REEL BRACKET



3-3. INSTALLING THE MODE LEVER AND PINCH LEVERS



1) Align • mark on the rotary switch with hole on the mode lever.
2) Make sure that the two shafts and three projections are located as shown below.

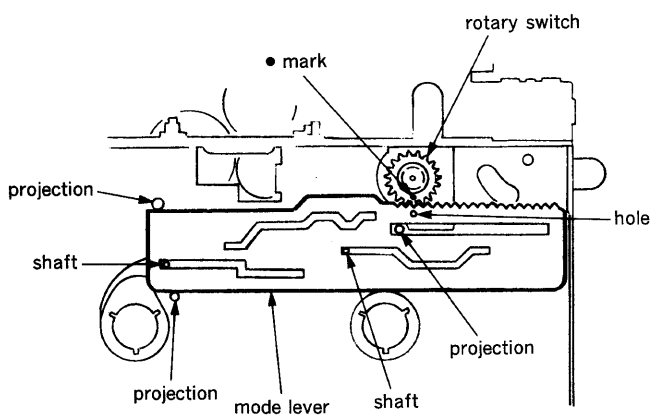


Fig. 1

1) Put the shafts of the pinch levers in the pinch press spring on its head side.

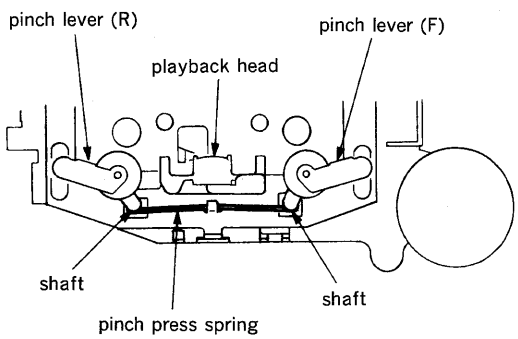


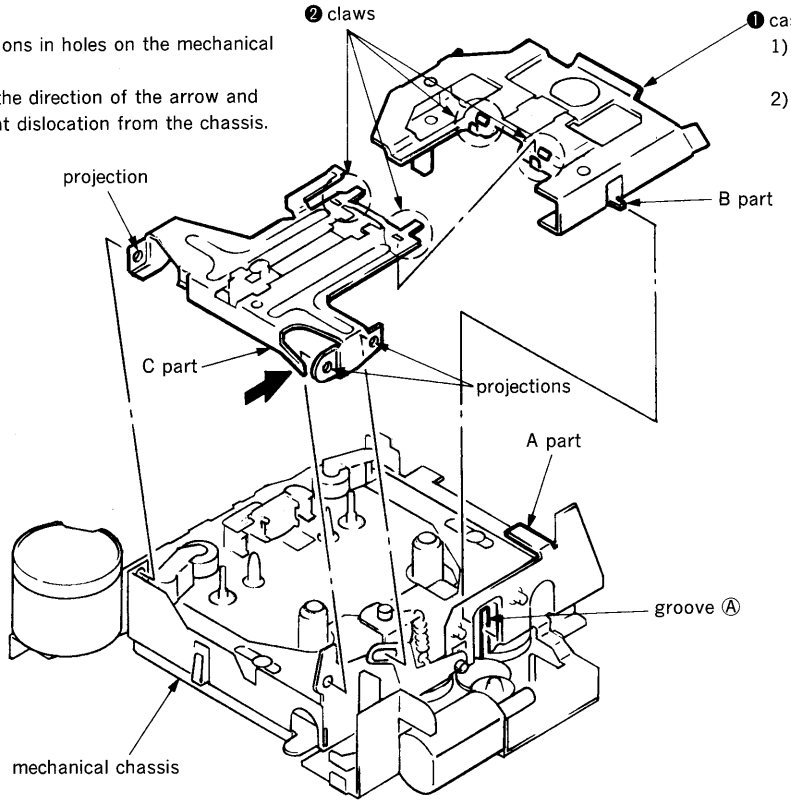
Fig. 2

3-4. INSTALLING THE CASSETTE HOUSING

❸ housing hanger
1) Fit three projections in holes on the mechanical chassis.
2) Bend C part in the direction of the arrow and fasten to prevent dislocation from the chassis.

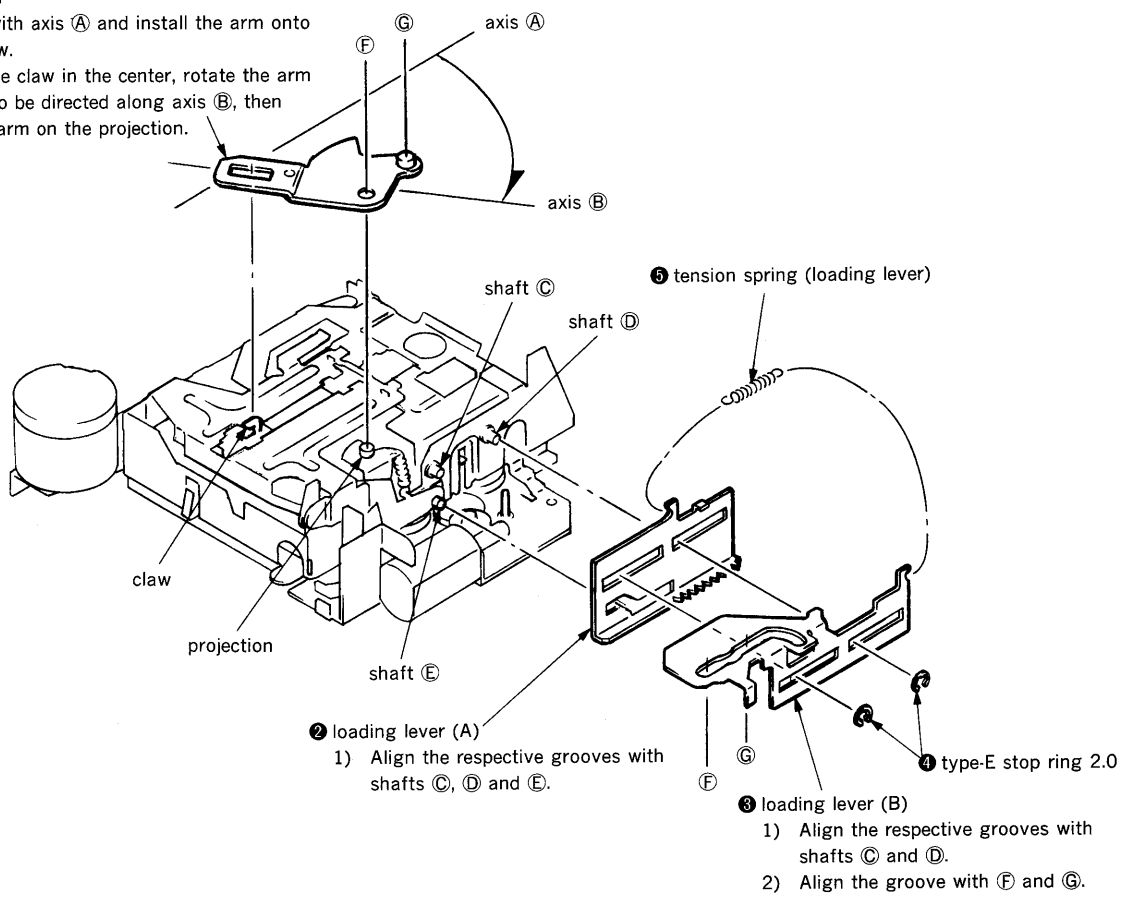
❷ claws

❶ cassette housing
1) Put the cassette housing under A part.
2) Fit B part in groove Ⓐ.

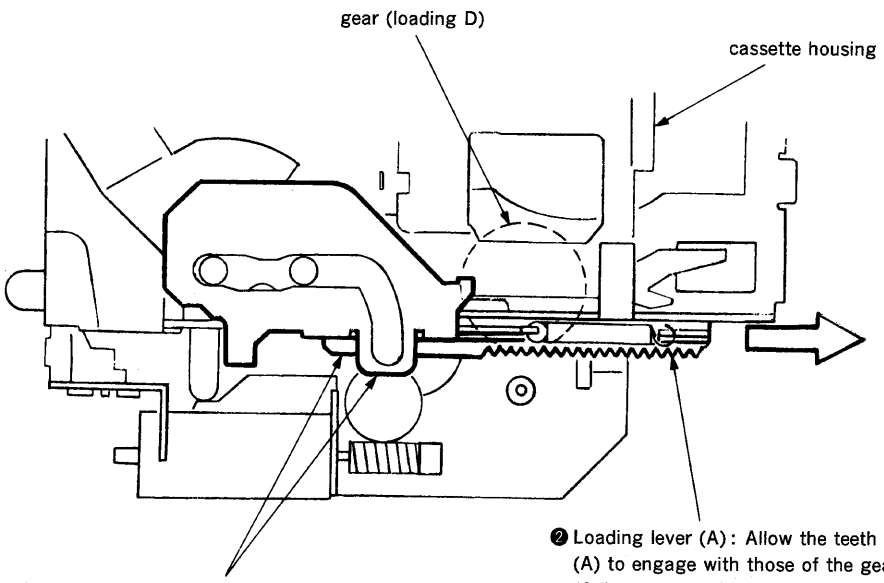


3-5. INSTALLING THE LOADING LEVER

❶ suction arm
1) Align with axis Ⓐ and install the arm onto the claw.
2) With the claw in the center, rotate the arm so as to be directed along axis Ⓑ, then fit the arm on the projection.



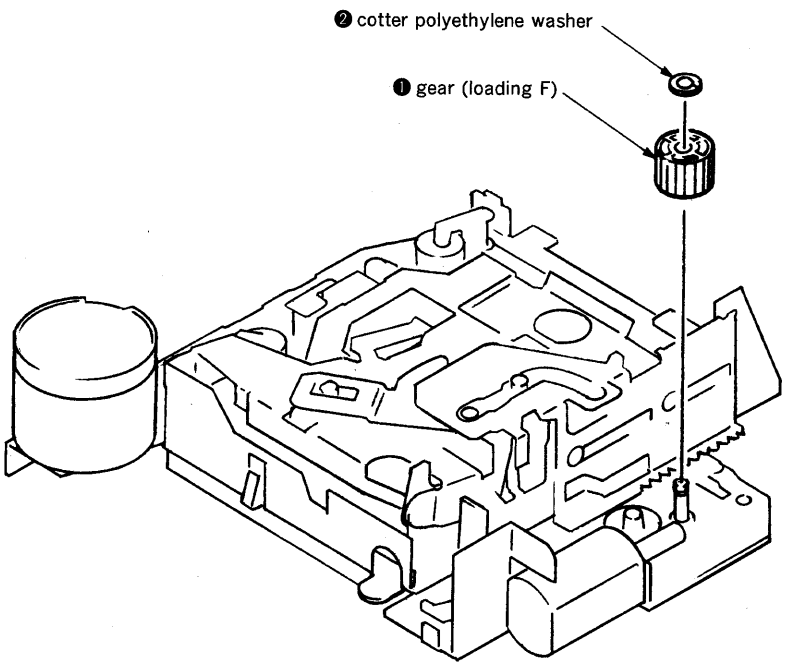
3-6. POSITIONING THE LOADING LEVERS



❶ Loading levers (A) and (B) : Move loading levers (A) and (B) in the direction of the arrow.
(The cassette housing is put down fully at this time.)

❷ Loading lever (A) : Allow the teeth of loading lever (A) to engage with those of the gear (loading D).
(Adjustment method : Retract loading lever (A) by 0.2 to 0.5mm in the opposite direction of the arrow.)

3-7. INSTALLING THE GEAR (LOADING F)



SECTION 4
DIAGRAMS

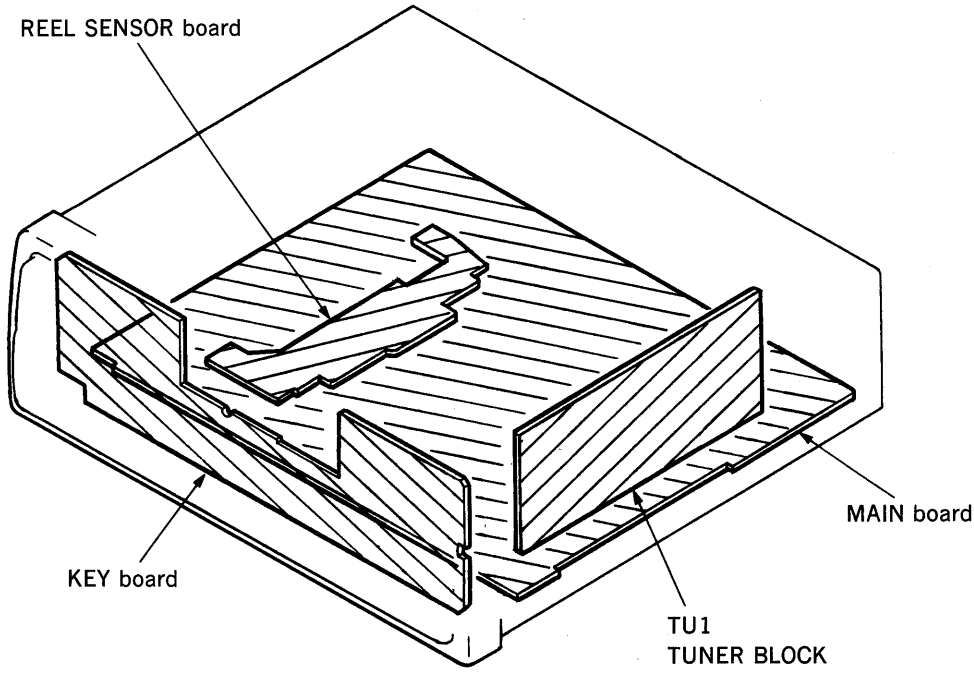
4-1. IC PIN DESCRIPTION

• IC501 LC72358-8996 (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Pin Description
1	X IN	I	4.5MHz crystal vibrator connection
2	NC	—	Not used. (Connected to GND.)
3	SEEK	O	FM/AM count request terminal
4	MW/$\overline{SW}$	O	Not used.
5	—	—	Not used.
6	$\overline{LCD\ INH}$	O	Control of inhibition display to LCD driver IC.
7	—	—	Not used.
8	VOL DATA	O	E-VOLUME data output terminal
9	VOL CLK	O	E-VOLUME clock output terminal
10	VOL CE	O	E-VOLUME chip enable output terminal
11	$\overline{PANEL\ IN}$	I	Panel detect input terminal
12	LCD DATA	O	LCD data output terminal
13	LCD CLK	O	LCD clock output terminal
14	LCD CE	O	LCD chip enable output terminal
15	$\overline{PLAY}$/ATA	O	R/T control terminal to DOLBY IC.
16	LOAD	O	Loading motor control terminal (Loading)
17	EJECT	O	Loading motor control terminal (Eject)
18	TAPE ON	O	Tape power control terminal
19, 20	—	—	Not used.
21	CODE C1	O	Scan signal output terminal for 9k/10k step select.
22	CODE C0	—	Not used.
23—26	CODE B3—CODE B0	—	Not used.
27	COUNTRY	—	Not used.
28	STEP SEL	—	Not used.
29	DOLBY SEL	—	Not used.
30	P. SEL	I	Power select switching input terminal
31	VDD	—	Power input terminal (+5V)
32	$\overline{TEST1}$	I	Test mode terminal
33	$\overline{AMS}$/PLAY	O	AMS/PLAY control terminal
34	$\overline{N}$/R	O	FWD/REV control terminal
35	$\overline{NOR}$/MTL	O	NORMAL/METAL tape select terminal
36	DOLBY	O	DOLBY ON/OFF control terminal
37	C. MOTOR	O	Capstan motor control terminal
38	TUNER/$\overline{TAPE}$	O	TUNER/TAPE select terminal
39	FM/$\overline{AM}$	O	FM/AM select terminal
40	PRE MUTE	O	LINE MUTE control terminal
41	$\overline{POWER\ MUTE}$	O	Power amplifier mute control terminal
42	ILL ON	O	Illumination ON/OFF control terminal
43	POWER ON	O	System power ON/OFF control terminal
44	BEEP	I	BEEP sound output terminal
45, 46	REEL2, REEL1	I	Reel sensor detection input terminal
47	POS4	I	Tape operation detect terminal
48	POS3	I	Tape operation detect terminal
49	POS1	I	Tape operation detect terminal
50	POS2	I	Tape operation detect terminal

Pin No.	Pin Name	I/O	Pin Description
51	RC1	I	Remote commander signal input terminal
52	$\overline{\text{ILLIN}}$	I	Pull-up +5V
53	ST/$\overline{\text{MONO}}$	I/O	Stereo signal input terminal
54	$\overline{\text{AMS IN}}$	I	AMS input terminal
55	$\overline{\text{ACC CHECK}}$	I	ACC detection input terminal
56	$\overline{\text{INT0}}$	I	Wake-up signal input terminal
57—59	—	—	Not used.
60	LO/$\overline{\text{DX}}$	O	LO/DX select output terminal
61—63	KEY2—KEY0	I	Key return signal input terminal
64	BU CHECK	I	Back-up detection input terminal
65	EZ 0	I	Remote commander control input terminal
66	S-METER	I	S meter input terminal
67	$\overline{\text{HOLD}}$	I	PLL control and CLOCK STOP mode control input terminal
68	BACK UP	I	Back-up detection input terminal
69	SD	I	Stop deside on SEEK, auto-memory and scan.
70	IF IN	I	AM IF input terminal
71, 72	—	—	Not used.
73	VDD	—	Power input terminal (+5V)
74	AM IN	I	AM local oscillator input terminal
75	FM IN	I	FM local oscillator input terminal
76	VSS	—	GND
77	—	—	Not used.
78	E-OUT	O	PLL error output terminal
79	NC	—	Not used.(Connected to GND.)
80	X OUT	O	4.5MHz crystal vibrator connection

4-2. CIRCUIT BOARDS LOCATION



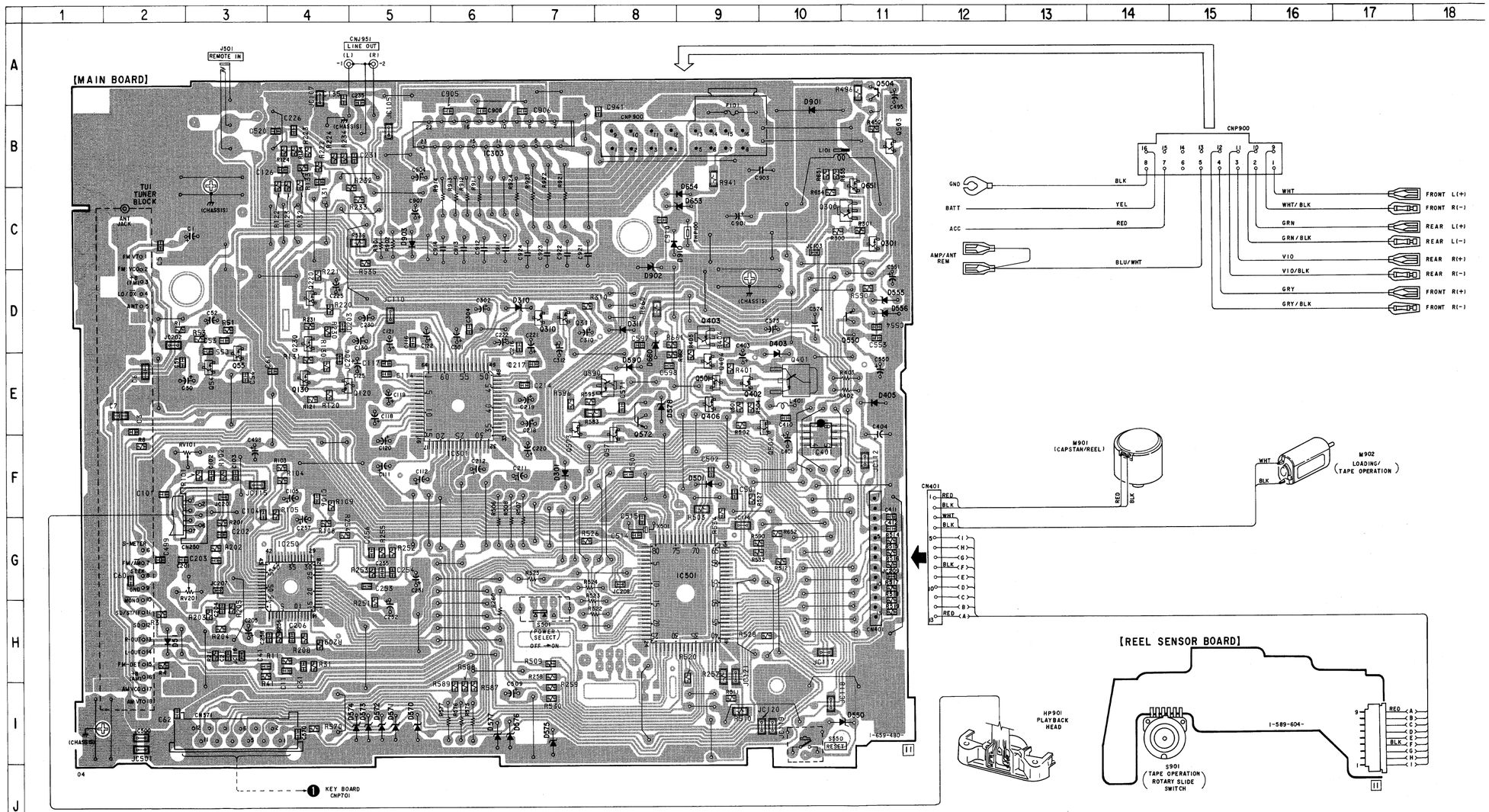
4-3. PRINTED WIRING BOARDS—MAIN SECTION—

● **Semiconductor Location**

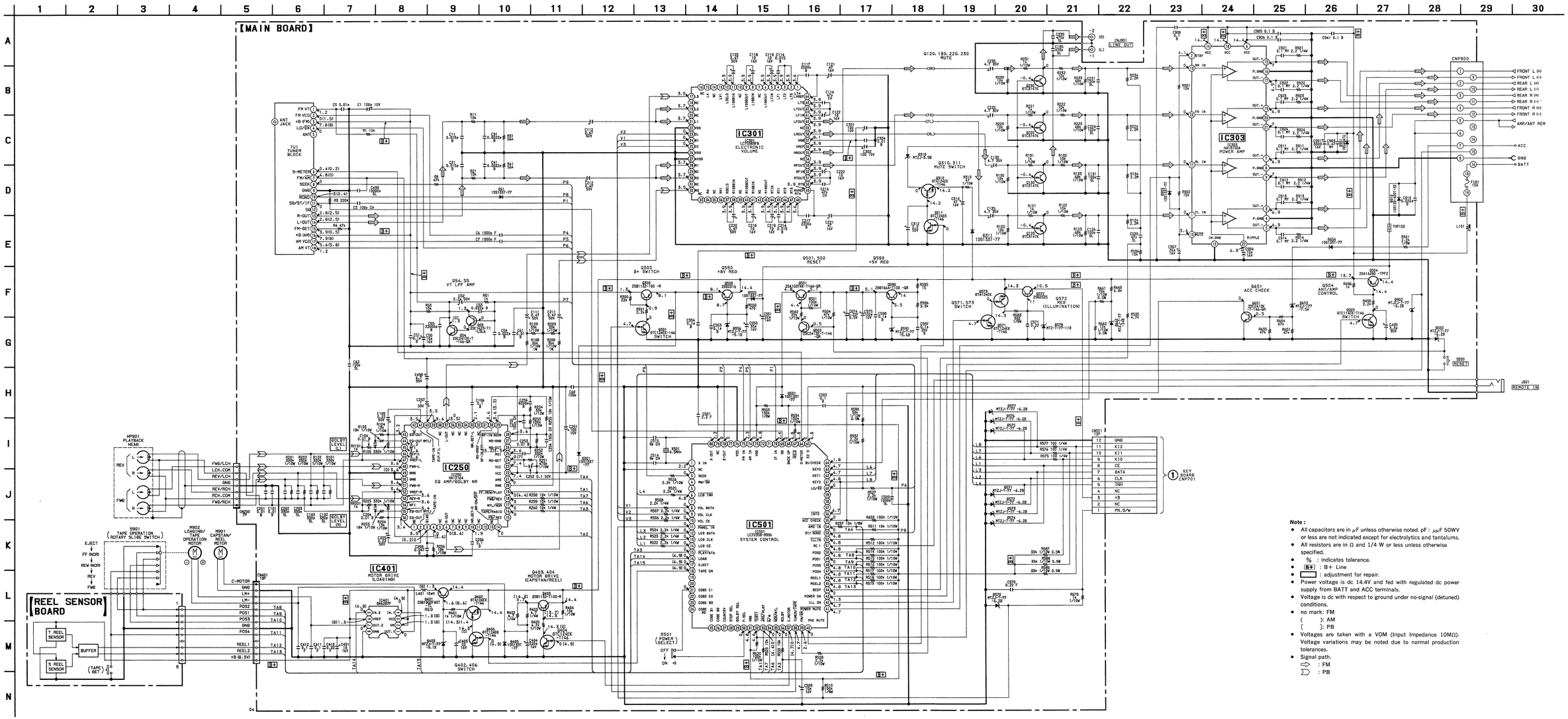
Ref. No.	Location	Ref. No.	Location
D51	H-2	IC303	B-6
D301	F-7	IC401	F-10
D310	D-7	IC501	G-9
D311	D-8		
D403	E-10	Q54	E-3
D405	E-11	Q55	E-3
D501	F-9	Q120	E-4
D550	I-10	Q130	E-4
D555	D-11	Q220	D-4
D556	D-11	Q230	D-4
D570	I-5	Q300	C-11
D571	I-5	Q301	C-11
D572	I-5	Q310	D-7
D573	I-5	Q311	D-7
D574	I-5	Q401	E-10
D575	I-7	Q402	E-9
D576	I-6	Q403	D-9
D577	I-6	Q404	E-9
D578	E-8	Q406	E-9
D590	E-8	Q501	E-9
D653	C-8	Q502	E-9
D654	C-8	Q503	B-11
D660	D-8	Q504	A-11
D901	B-10	Q550	D-11
D902	C-8	Q571	F-8
D903	C-5	Q572	E-8
D910	C-8	Q573	E-7
		Q590	E-8
IC250	G-4	Q651	B-11
IC301	E-6		

Note :

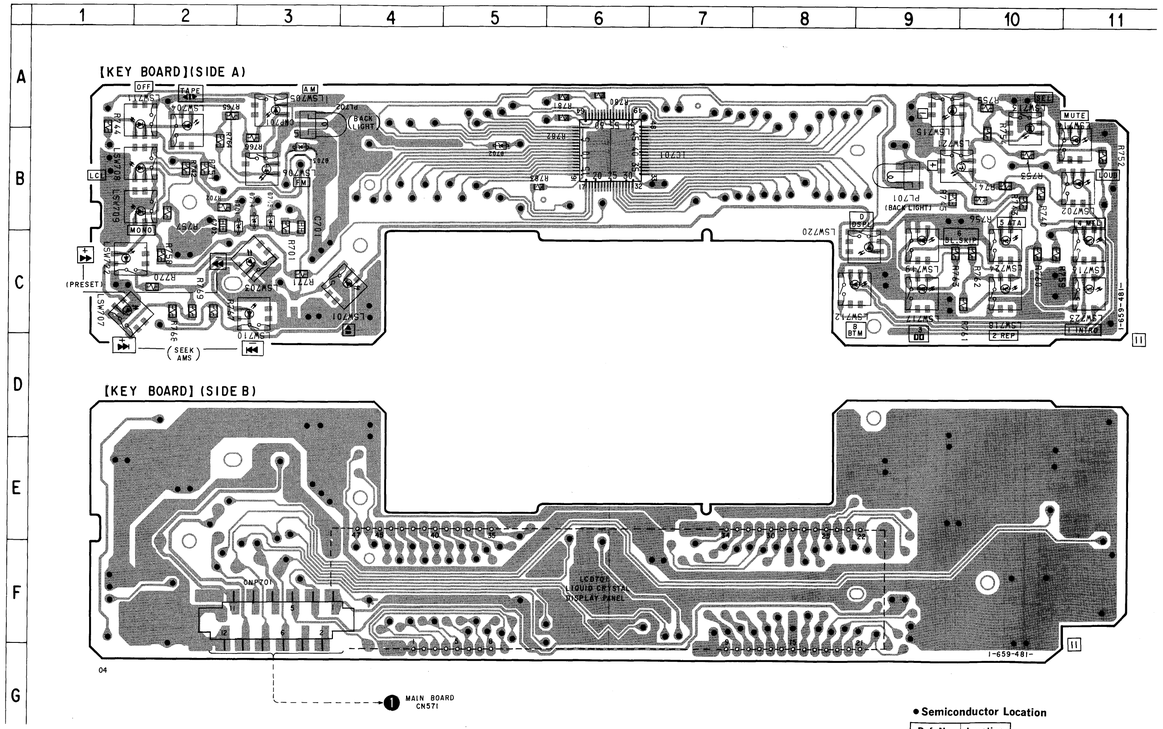
● ○— : parts extracted from the component side.



4-4. SCHEMATIC DIAGRAM—MAIN SECTION— • Refer to page 29 for IC Block Diagrams.



4-5. PRINTED WIRING BOARD—PANEL SECTION—

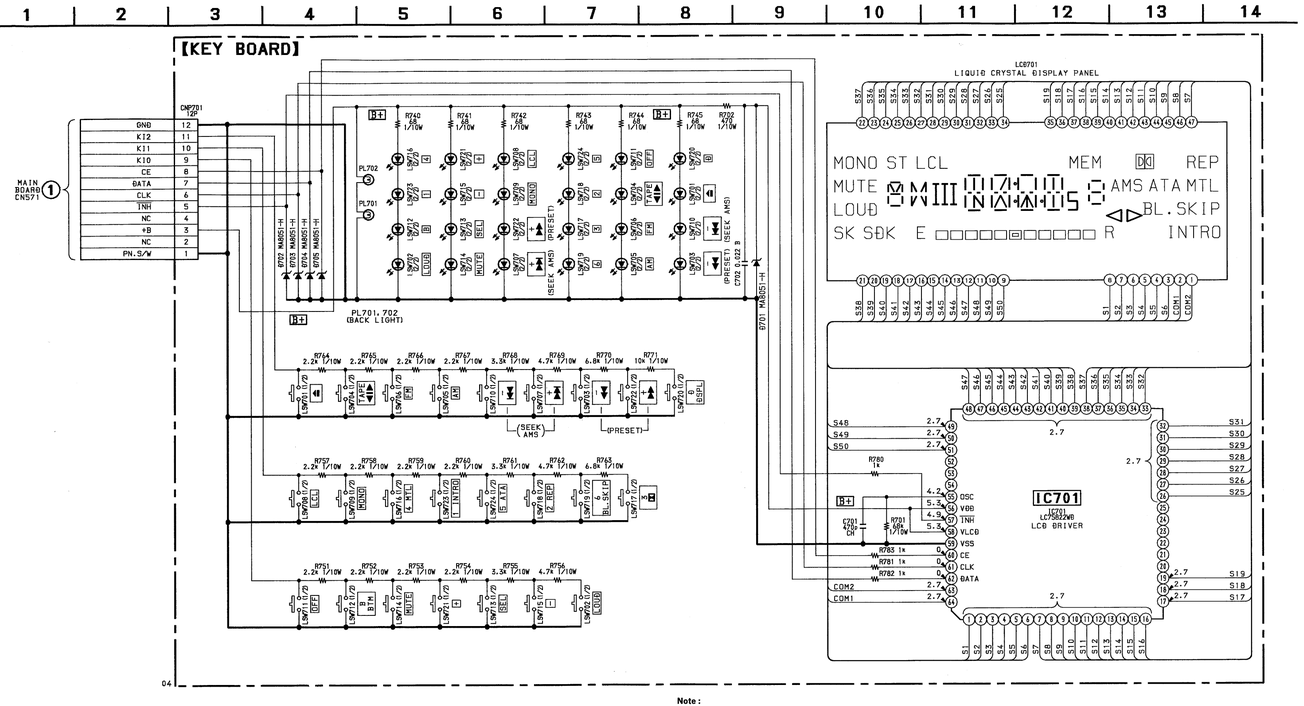


Note :
- ● : Through hole.
- ▬ : Pattern on the side which is seen. (The other layer's patterns are not indicated.)

● Semiconductor Location

Ref. No.	Location
D701	B-3
D702	B-5
D703	B-3
D704	B-3
D705	B-3
IC701	B-6

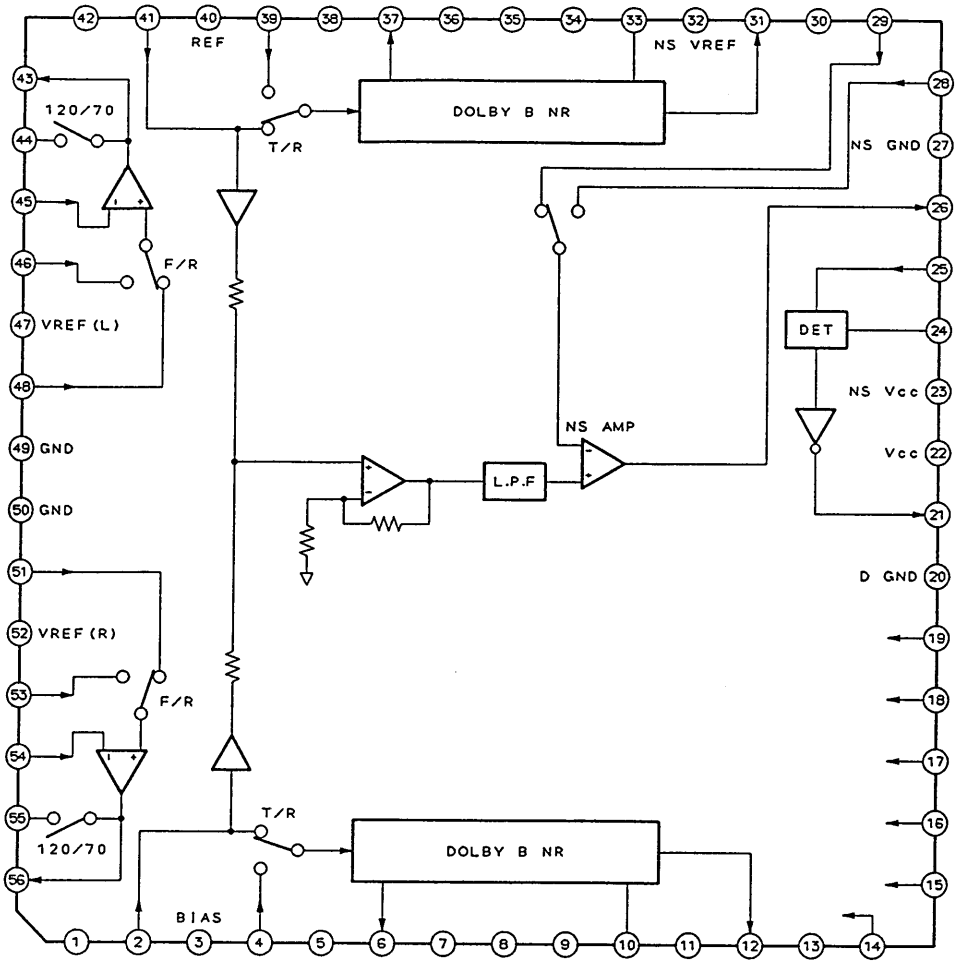
4-6. SCHEMATIC DIAGRAM—PANEL SECTION—



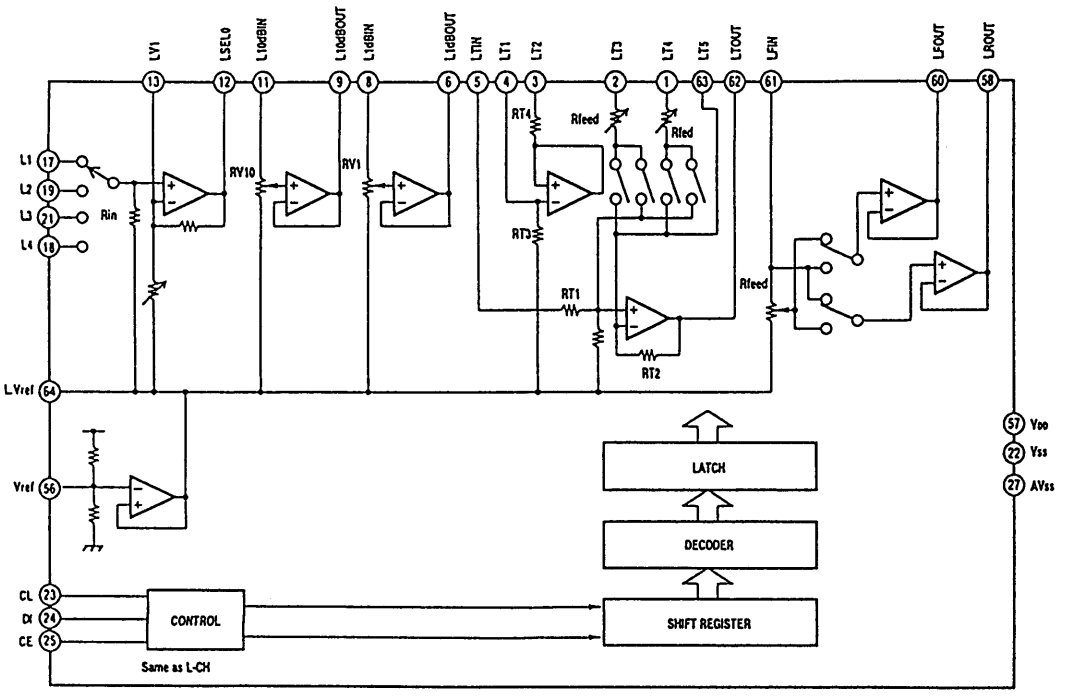
Note :
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- B+ : B+ Line
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

• **IC Block Diagrams**

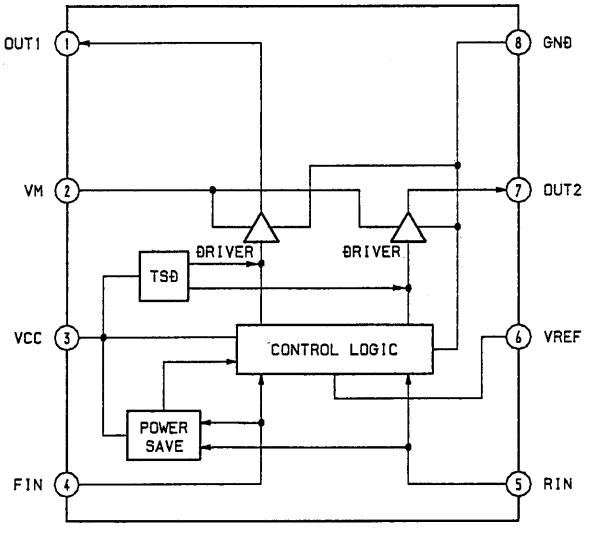
IC250 HA12164



IC301 LC75383ED



IC401 BA6287F

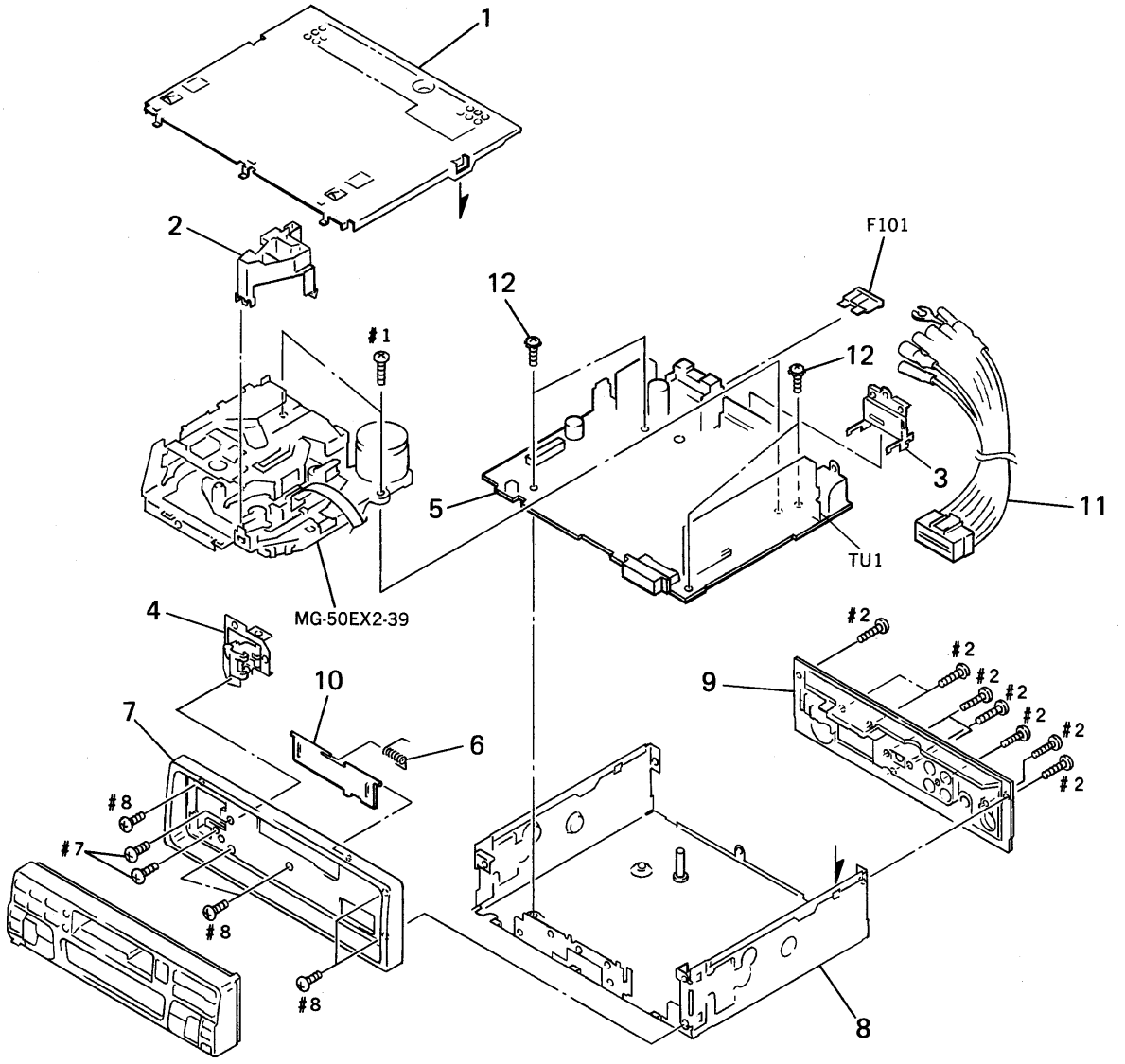


SECTION 5
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

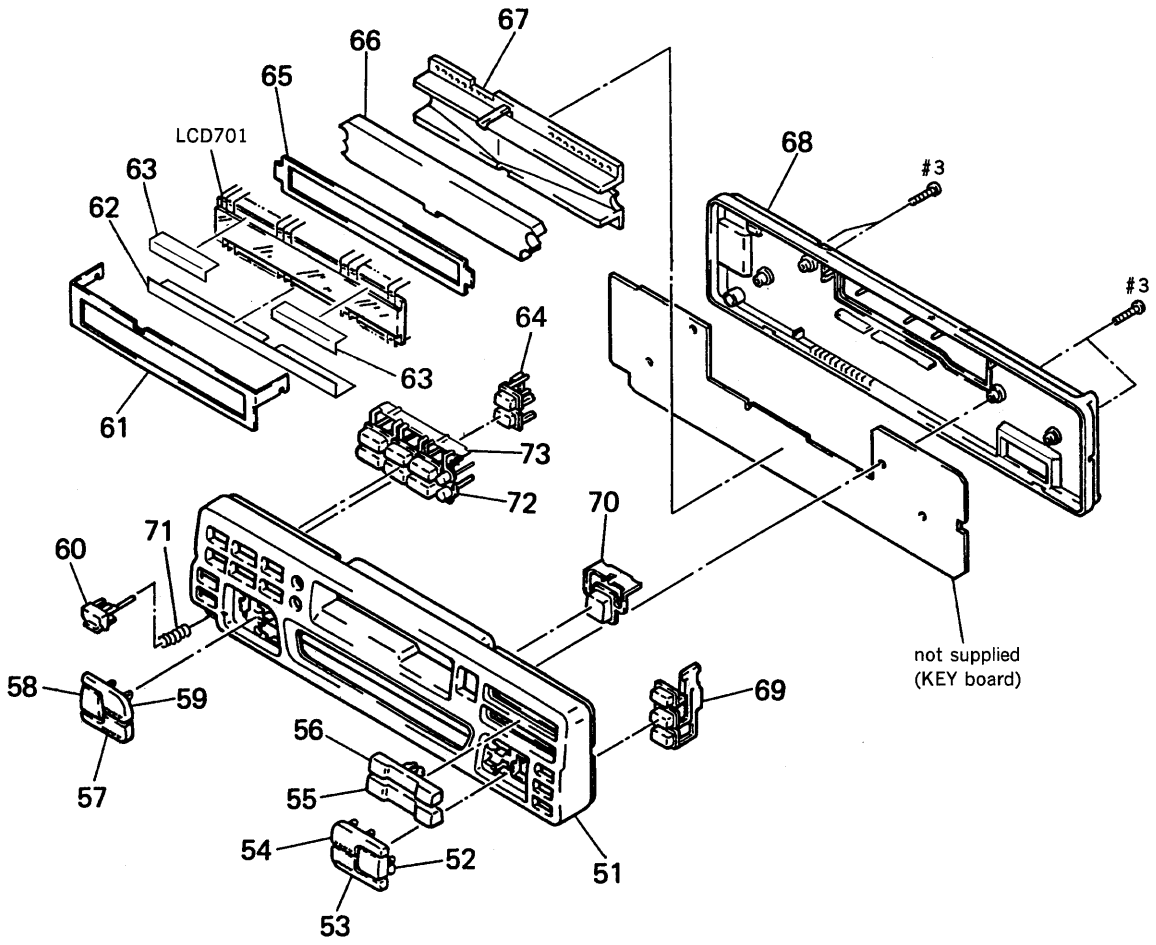
5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	X-3371-374-1	COVER ASSY	
2	3-916-872-01	GUIDE	
* 3	3-931-260-01	BRACKET (IC)	
4	X-3367-636-1	LOCK ASSY	
* 5	A-3298-991-A	MAIN BOARD, COMPLETE	
6	3-913-076-01	SPRING (C DOOR), TORSION	
7	3-921-650-01	PANEL, SUB	

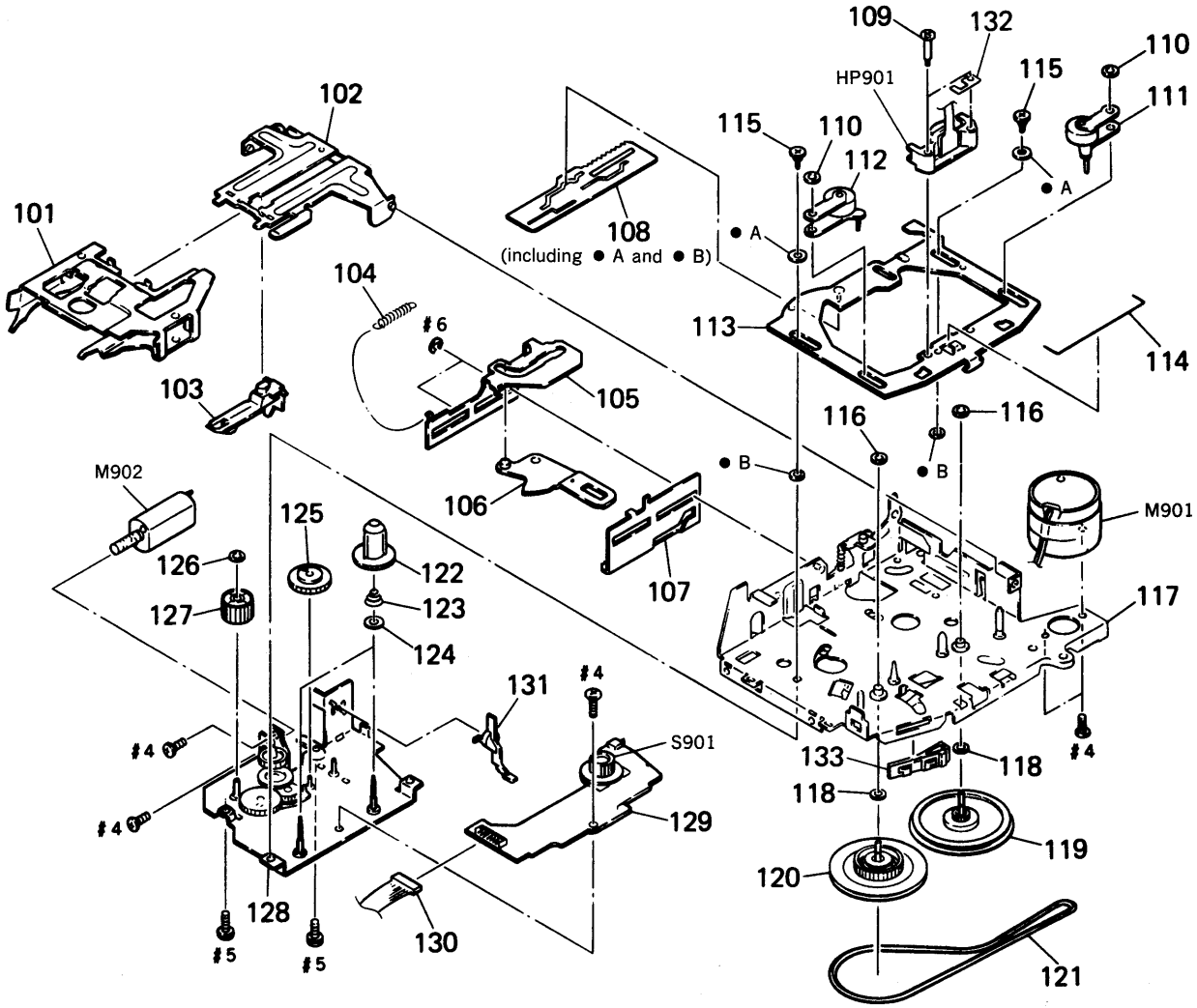
Ref. No.	Part No.	Description	Remark
* 8	X-3371-376-1	CHASSIS ASSY	
9	3-925-745-01	HEAT SINK	
10	3-931-233-01	DOOR, CASSETTE	
11	1-776-207-11	CORD (WITH CONNECTOR)	
12	3-915-923-01	SCREW, GROUND POINT	
F101	1-533-331-11	FUSE (BLADE TYPE) (AUTO FUSE) 15A	
TU1	A-3298-992-A	TUNER BLOCK	

5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-921-648-81	PANEL, FRONT	
52	3-929-806-11	BUTTON (CD. TAPE)	
53	3-929-808-01	BUTTON (AM)	
54	3-929-807-01	BUTTON (FM)	
55	3-929-812-21	BUTTON (PRESET)	
56	3-929-811-01	BUTTON (SEEK)	
57	3-929-810-01	BUTTON (-)	
58	3-929-805-01	BUTTON (SEL)	
59	3-929-809-01	BUTTON (+)	
60	3-931-270-01	BUTTON (RELEASE)	
* 61	3-931-264-01	PLATE (LCD), GROUND	
* 62	3-931-272-01	SHEET (LCD-L)	
* 63	3-931-273-01	SHEET (LCD-S)	
64	3-929-816-01	BUTTON (2 GANG)	
* 65	3-931-291-01	SHEET (REFLECTOR)	
* 66	3-931-289-01	PLATE, LIGHT GUIDE	
* 67	3-931-290-01	HOLDER (LCD)	
68	3-921-649-01	PANEL, FRONT BACK	
69	3-929-817-11	BUTTON (3 GANG)	
70	3-929-815-01	BUTTON (EJECT)	
71	3-375-373-01	SPRING (RELEASE)	
72	3-929-814-01	BUTTON (4-6)	
73	3-929-813-01	BUTTON (1-3)	
LCD701	1-801-172-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. MECHANISM DECK SECTION (MG-50EX2-39)



Ref. No.	Part No.	Description	Remark
101	3-928-222-01	HOUSING (2), CASSETTE	
102	3-912-882-01	HANGER (2), HOUSING	
103	3-912-884-01	CATCHER	
104	3-912-885-01	SPRING (LOADING LEVER), TENSION	
* 105	3-912-892-01	LEVER (B), LOADING	
* 106	3-912-883-01	ARM, SUCTION	
107	3-922-941-01	LEVER (LOADING A)	
* 108	X-3370-516-1	LEVER (SV) ASSY, MODE	
109	3-927-100-11	SCREW (+PS 2X10), SPECIAL	
110	3-579-788-01	WASHER, STOPPER	
111	X-3368-266-1	PINCH LEVER (F) ASSY	
112	X-3368-267-1	PINCH LEVER (R) ASSY	
113	X-3370-824-1	BASE ASSY (HD2), HEAD	
114	3-912-879-01	SPRING, PINCH PRESS	
115	3-931-184-01	SCREW (HB2), STEP	
116	3-364-151-01	WASHER	
117	X-3368-841-1	CHASSIS (SV) ASSY (A), MECHANICAL	
118	3-701-437-21	WASHER	
119	3-930-932-01	FLYWHEEL (F) (SEF)	

Ref. No.	Part No.	Description	Remark
120	X-3371-303-1	CLUTCH (SEF) ASSY, FR	
121	3-912-896-01	BELT	
122	X-3368-843-1	GEAR ASSY, REEL	
123	3-917-222-01	SPRING (B-T), COIL	
124	3-917-324-01	WASHER (B-T)	
125	3-912-888-03	GEAR (LOADING E)	
126	3-321-813-01	WASHER, COTTER POLYETHYLENE	
127	3-912-889-01	GEAR (LOADING F)	
128	X-3368-842-1	BRACKET (SV) ASSY, REEL	
129	1-589-604-11	REEL SENSOR BOARD	
130	1-765-460-12	CORD (WITH CONNECTOR)	
131	3-916-358-01	LEVER (TAPE IN 2)	
* 132	3-917-258-01	PLATE, GROUND	
133	3-919-553-01	GUIDE (BELT)	
HP901	1-500-196-21	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3368-684-1	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
M902	X-3368-685-1	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

KEY

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
		KEY BOARD			
		*********			
*	3-931-264-01	PLATE (LCD), GROUND			
*	3-931-272-01	SHEET (LCD-L)			
*	3-931-273-01	SHEET (LCD-S)			
*	3-931-289-01	PLATE, LIGHT GUIDE			
*	3-931-290-01	HOLDER (LCD)			
*	3-931-291-01	SHEET (REFLECTOR)			
		< CAPACITOR >			
C701	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C702	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
		< CONNECTOR >			
CNP701	1-764-423-11	PIN, CONNECTOR 12P			
		< DIODE >			
D701	8-719-976-99	DIODE DTZ5.1B			
D702	8-719-976-99	DIODE DTZ5.1B			
D703	8-719-976-99	DIODE DTZ5.1B			
D704	8-719-976-99	DIODE DTZ5.1B			
D705	8-719-976-99	DIODE DTZ5.1B			
		< IC >			
IC701	8-759-330-60	IC LC75822WD			
		< LIQUID CRYSTAL DISPLAY >			
LCD701	1-801-172-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< SWITCH >			
LSW701	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(⏏)
LSW702	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(LOUD)
LSW703	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(- ◀◀ (PRESET))
LSW704	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(TAPE ◀▮▶)
LSW705	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(AM)
LSW706	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(FM)
LSW707	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(+ ▶▶▮ (SEEK AMS))
LSW708	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(LCL)
LSW709	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(MONO)
LSW710	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(- ▮◀◀ (SEEK AMS))
LSW711	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(OFF)
LSW712	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(B BTM)
LSW713	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(SEL)
LSW714	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(MUTE)
LSW715	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(-)
LSW716	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(4 MTL)
LSW717	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(3 □□)
LSW718	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(2 REP)
LSW719	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(6 BL.SKIP)
LSW720	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(D DSPL)
LSW721	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(+)
LSW722	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(+ ▶▶ (PRESET))
LSW723	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(1 INTRO)
LSW724	1-762-142-12	SWITCH, KEY BOARD (WITH LED)			(5 ATA)
		< PILOT LAMP >			
PL701	1-517-407-21	LAMP, PILOT			
PL702	1-517-407-21	LAMP, PILOT			
		< RESISTOR >			
R701	1-216-093-00	METAL CHIP	68K	5%	1/10W
R702	1-216-041-00	METAL CHIP	470	5%	1/10W
R740-745	1-216-021-00	METAL CHIP	68	5%	1/10W
R751-754	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R755	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R756	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R757-760	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R761	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R762	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R763	1-216-069-00	METAL CHIP	6.8K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R764-767					
	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R768	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R769	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R770	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R771	1-216-073-00	METAL CHIP	10K	5%	1/10W
R780-783					
	1-216-821-11	METAL CHIP	1K	5%	1/16W
**********					
*	A-3298-991-A	MAIN BOARD, COMPLETE			
		**********			
*	3-931-260-01	BRACKET (IC)			
		< CAPACITOR >			
C1	1-124-584-00	ELECT	100uF	20%	10V
C3	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C5	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C6	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C7	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C11	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C21	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C31	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C41	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C50	1-126-157-11	ELECT	10uF	20%	16V
C51	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C52	1-124-257-00	ELECT	2.2uF	20%	50V
C53-55					
	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C60	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C61	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C62	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C101	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C102	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C103	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C104	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C105	1-124-464-11	ELECT	0.22uF	20%	50V
C106	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C111	1-124-465-00	ELECT	0.47uF	20%	50V
C112	1-124-465-00	ELECT	0.47uF	20%	50V
C114	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C116	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C117	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C118	1-126-157-11	ELECT	10uF	20%	16V
C119	1-126-157-11	ELECT	10uF	20%	16V
C120	1-124-465-00	ELECT	0.47uF	20%	50V
C121	1-124-58[illegible]-11	ELECT	47uF	20%	16V
C122	1-126-157-11	ELECT	10uF	20%	16V
C125	1-126-163-11	ELECT	4.7uF	20%	50V

Ref. No.	Part No.	Description			Remark
C126	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C130	1-126-163-11	ELECT	4.7uF	20%	50V
C131	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C135	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C201	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C202	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C203	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C204	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C205	1-124-464-11	ELECT	0.22uF	20%	50V
C206	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C211	1-124-465-00	ELECT	0.47uF	20%	50V
C212	1-124-465-00	ELECT	0.47uF	20%	50V
C214	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C216	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C217	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C218	1-126-157-11	ELECT	10uF	20%	16V
C219	1-126-157-11	ELECT	10uF	20%	16V
C220	1-124-465-00	ELECT	0.47uF	20%	50V
C221	1-124-589-11	ELECT	47uF	20%	16V
C222	1-126-157-11	ELECT	10uF	20%	16V
C225	1-126-163-11	ELECT	4.7uF	20%	50V
C226	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C230	1-126-163-11	ELECT	4.7uF	20%	50V
C231	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C235	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C251	1-124-584-00	ELECT	100uF	20%	10V
C252	1-124-463-00	ELECT	0.1uF	20%	50V
C253	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C254	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C255	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C256	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C257	1-126-301-11	ELECT	1uF	20%	50V
C258	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C301	1-124-584-00	ELECT	100uF	20%	10V
C302	1-124-584-00	ELECT	100uF	20%	10V
C304	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C310	1-124-589-11	ELECT	47uF	20%	16V
C312	1-124-257-00	ELECT	2.2uF	20%	50V
C401	1-126-157-11	ELECT	10uF	20%	16V
C403	1-124-234-00	ELECT	22uF	20%	16V
C404	1-124-120-11	ELECT	220uF	20%	25V
C410	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C411	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C412	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C495	1-126-162-11	ELECT	3.3uF	20%	50V
C498	1-126-163-11	ELECT	4.7uF	20%	50V
C499	1-164-232-11	CERAMIC CHIP	0.01uF	10%	100V
C500	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C501	1-164-505-11	CERAMIC CHIP	2.2uF		16V

MAIN

Ref. No.	Part No.	Description			Remark
C502	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C509	1-126-157-11	ELECT	10uF	20%	16V
C514	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V
C515	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V
C520	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C550	1-124-242-00	ELECT	33uF	20%	25V
C551	1-124-234-00	ELECT	22uF	20%	16V
C553	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C554	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C570	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C571	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C574	1-125-705-11	CAPACITOR	0.22F		5.5V
C575	1-124-584-00	ELECT	100uF	20%	10V
C597	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C598	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C901	1-126-936-11	ELECT	3300uF	20%	16V
C903	1-136-173-00	FILM	0.47uF	5%	50V
C904	1-126-157-11	ELECT	10uF	20%	16V
C905	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C906	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C907	1-124-234-00	ELECT	22uF	20%	16V
C908	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C910	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C911-914	1-136-165-00	FILM	0.1uF	5%	50V
C921-924	1-136-165-00	FILM	0.1uF	5%	50V
C941	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

< CONNECTOR >

CN250	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P	
* CN401	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P	
CN571	1-764-422-11	PLUG, CONNECTOR 12P	
CNP900	1-774-701-11	PIN, CONNECTOR 16P	

< JACK >

CNJ951	1-764-424-41	JACK, PIN 2P (LINE OUT)	

< DIODE >

D51	8-719-991-33	DIODE	1SS133T-77
D301	8-719-991-33	DIODE	1SS133T-77
D310	8-719-109-72	DIODE	RD3.9ES-B2
D311	8-719-991-33	DIODE	1SS133T-77
D403	8-719-110-13	DIODE	RD9.1ESB2
D405	8-719-991-33	DIODE	1SS133T-77
D501	8-719-991-33	DIODE	1SS133T-77
D550	8-719-109-93	DIODE	RD6.2ESB2
D555	8-719-991-33	DIODE	1SS133T-77
D556	8-719-110-13	DIODE	RD9.1ESB2
D570	8-719-109-93	DIODE	RD6.2ESB2
D571	8-719-109-93	DIODE	RD6.2ESB2
D572	8-719-109-93	DIODE	RD6.2ESB2
D573	8-719-109-93	DIODE	RD6.2ESB2
D574	8-719-109-93	DIODE	RD6.2ESB2
D575	8-719-109-93	DIODE	RD6.2ESB2
D576	8-719-109-93	DIODE	RD6.2ESB2
D577	8-719-109-93	DIODE	RD6.2ESB2
D578	8-719-921-80	DIODE	MTZJ-11B
D590	8-719-109-89	DIODE	RD5.6ESB2
D653	8-719-110-03	DIODE	RD7.5ESB2
D654	8-719-991-33	DIODE	1SS133T-77
D660	8-719-110-60	DIODE	RD24ES-B
D901	8-719-049-38	DIODE	1N5404TU
D902	8-719-109-93	DIODE	RD6.2ESB2
D903	8-719-991-33	DIODE	1SS133T-77
D910	8-719-970-02	DIODE	1SR139-400

< FUSE >

F101	1-533-331-11	FUSE (BLADE TYPE) (AUTO FUSE) (15A)

< IC >

IC250	8-759-161-01	IC	HA12164
IC301	8-759-330-62	IC	LC75383ED
IC303	8-759-369-41	IC	HA13155
IC401	8-759-040-83	IC	BA6287F
IC501	8-759-375-66	IC	LC72358N-8996

< JACK >

J501	1-566-822-41	JACK (REMOTE IN)

< JUMPER RESISTOR >

JC100	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC103	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC104	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC105	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC107	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC110-115	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC116	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC117-121	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC201	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC202	1-216-296-00	CONDUCTOR, CHIP	(3216)
JC203-205	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC207-209	1-216-295-00	CONDUCTOR, CHIP	(2012)
JC500	1-216-296-00	CONDUCTOR, CHIP	(3216)

Ref. No.	Part No.	Description			Remark
JC501	1-216-296-00	CONDUCTOR, CHIP	(3216)		
		< COIL >			
L101	1-411-823-11	COIL, CHOKE			
L401	1-410-509-11	MICRO INDUCTOR	10uH		
		< TRANSISTOR >			
Q54	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q55	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q120	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q130	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q220	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q230	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q300	8-729-106-60	TRANSISTOR	2SB1115A		
Q301	8-729-901-00	TRANSISTOR	DTC124EK		
Q310	8-729-901-05	TRANSISTOR	DTA124EK		
Q311	8-729-901-00	TRANSISTOR	DTC124EK		
Q401	8-729-015-11	TRANSISTOR	2SD1802FAST-TL		
Q402	8-729-901-05	TRANSISTOR	DTA124EK		
Q403	8-729-106-60	TRANSISTOR	2SB1115A		
Q404	8-729-901-00	TRANSISTOR	DTC124EK		
Q406	8-729-901-00	TRANSISTOR	DTC124EK		
Q501	8-729-026-49	TRANSISTOR	2SA1037AK-T146-R		
Q502	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q503	8-729-900-53	TRANSISTOR	DTC114EK		
Q504	8-729-205-95	TRANSISTOR	2SA1428-Y		
Q550	8-729-209-15	TRANSISTOR	2SD2012		
Q571	8-729-901-00	TRANSISTOR	DTC124EK		
Q572	8-729-030-18	TRANSISTOR	2SD2525		
Q573	8-729-901-05	TRANSISTOR	DTA124EK		
Q590	8-729-920-85	TRANSISTOR	2SD1664-QR		
Q651	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		< RESISTOR >			
R1	1-216-073-00	METAL CHIP	10K	5%	1/10W
R3	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R4	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R8	1-216-089-00	METAL CHIP	47K	5%	1/10W
R11	1-216-029-00	METAL CHIP	150	5%	1/10W
R21	1-216-073-00	METAL CHIP	10K	5%	1/10W
R31	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R41	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R51	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R101	1-216-109-00	METAL CHIP	330K	5%	1/10W
R102	1-216-109-00	METAL CHIP	330K	5%	1/10W
R103	1-216-079-00	METAL CHIP	18K	5%	1/10W
R104	1-216-076-00	METAL CHIP	13K	5%	1/10W
R105	1-216-109-00	METAL CHIP	330K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R108	1-216-688-11	METAL CHIP	36K	0.5%	1/10W
R109	1-216-085-00	METAL CHIP	33K	5%	1/10W
R120	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W
R123	1-216-093-00	METAL CHIP	68K	5%	1/10W
R124	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R130	1-216-073-00	METAL CHIP	10K	5%	1/10W
R131	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R132	1-216-073-00	METAL CHIP	10K	5%	1/10W
R133	1-216-093-00	METAL CHIP	68K	5%	1/10W
R134	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R201	1-216-109-00	METAL CHIP	330K	5%	1/10W
R202	1-216-109-00	METAL CHIP	330K	5%	1/10W
R203	1-216-079-00	METAL CHIP	18K	5%	1/10W
R204	1-216-076-00	METAL CHIP	13K	5%	1/10W
R205	1-216-109-00	METAL CHIP	330K	5%	1/10W
R208	1-216-688-11	METAL CHIP	36K	0.5%	1/10W
R209	1-216-085-00	METAL CHIP	33K	5%	1/10W
R220	1-216-073-00	METAL CHIP	10K	5%	1/10W
R221	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R222	1-216-073-00	METAL CHIP	10K	5%	1/10W
R223	1-216-093-00	METAL CHIP	68K	5%	1/10W
R224	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R230	1-216-073-00	METAL CHIP	10K	5%	1/10W
R231	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R232	1-216-073-00	METAL CHIP	10K	5%	1/10W
R233	1-216-093-00	METAL CHIP	68K	5%	1/10W
R234	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R251	1-216-113-00	METAL CHIP	470K	5%	1/10W
R252	1-216-109-00	METAL CHIP	330K	5%	1/10W
R253	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R254	1-216-085-00	METAL CHIP	33K	5%	1/10W
R255	1-216-079-00	METAL CHIP	18K	5%	1/10W
R256	1-216-079-00	METAL CHIP	18K	5%	1/10W
R257	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R258	1-216-073-00	METAL CHIP	10K	5%	1/10W
R259	1-216-073-00	METAL CHIP	10K	5%	1/10W
R260	1-249-429-11	CARBON	10K	5%	1/4W
R300	1-216-081-00	METAL CHIP	22K	5%	1/10W
R301	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R310	1-216-017-00	METAL GLAZE	47	5%	1/10W
R401	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R402	1-249-389-11	CARBON	4.7	5%	1/4W
R403	1-249-389-11	CARBON	4.7	5%	1/4W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R405	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R450	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R496	1-216-198-00	METAL GLAZE	1K	5%	1/8W

MAIN

Ref. No.	Part No.	Description			Remark
R501	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R502	1-216-081-00	METAL CHIP	22K	5%	1/10W
R503	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R504	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R506-508					
	1-249-421-11	CARBON	2.2K	5%	1/4W
R509	1-216-073-00	METAL CHIP	10K	5%	1/10W
R510	1-216-246-00	METAL GLAZE	100K	5%	1/8W
R511	1-216-073-00	METAL CHIP	10K	5%	1/10W
R512	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R514-520					
	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R522-525					
	1-249-421-11	CARBON	2.2K	5%	1/4W
R526	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R527	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R528	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R530	1-216-073-00	METAL CHIP	10K	5%	1/10W
R532	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R534	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R535	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R536	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R550	1-216-041-00	METAL CHIP	470	5%	1/10W
R570	1-216-049-11	METAL GLAZE	1K	5%	1/10W
R575-577					
	1-247-807-31	CARBON	100	5%	1/4W
R583	1-216-186-00	METAL GLAZE	330	5%	1/8W
R587-590					
	1-216-687-11	METAL CHIP	33K	0.5%	1/10W
R595	1-216-005-00	METAL CHIP	15	5%	1/10W
R596	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R651	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R652	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R654	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R655	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R660	1-216-218-00	METAL GLAZE	6.8K	5%	1/8W
R661	1-216-696-11	METAL CHIP	75K	0.5%	1/10W
R662	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R901	1-249-429-11	CARBON	10K	5%	1/4W
R902	1-249-429-11	CARBON	10K	5%	1/4W
R911-914					
	1-249-385-11	CARBON	2.2	5%	1/6W
R921-924					
	1-249-385-11	CARBON	2.2	5%	1/6W
R941	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
		< VARIABLE RESISTOR >			
RV101	1-225-212-21	RES, ADJ 1K			
RV201	1-225-212-21	RES, ADJ 1K			

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S501	1-571-478-11	SWITCH, SLIDE (POWER SELECT)	
S550	1-762-638-11	SWITCH, TACTILE (RESET)	
		< THERMISTOR(POSITIVE) >	
THP100	1-809-148-11	THERMISTOR, POSITIVE PTH8L07AR2R0M1B510	
		< TUNER BLOCK >	
TU1	A-3298-992-A	TUNER BLOCK	
		< VIBRATOR >	
X501	1-760-223-11	VIBRATOR, CRYSTAL (4.5MHz)	

****

MISCELLANEOUS

****

11	1-776-207-11	CORD (WITH CONNECTOR)	
130	1-765-460-12	CORD (WITH CONNECTOR)	
F101	1-533-331-11	FUSE (BLADE TYPE) (AUTO FUSE) 15A	
HP901	1-500-196-21	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3368-684-1	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
M902	X-3368-685-1	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

****

ACCESSORIES & PACKING MATERIALS

****

	3-810-597-11	MANUAL, INSTRUCTION (ENGLISH)
	3-810-597-21	MANUAL, INSTRUCTION (FRENCH) (Canadian)
	3-810-598-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH)
*	X-3371-377-1	CASE ASSY

****

****

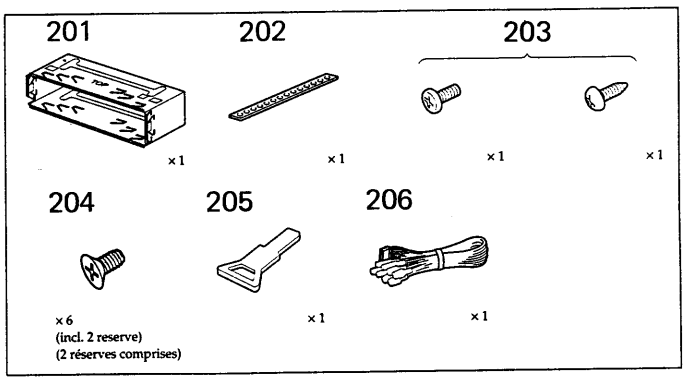
HARDWARE LIST

****

#1	7-621-770-67	SCREW +PTT 2.6X6 (S)
#2	7-621-770-XX	SCREW +PTT 2.6X8 (S)
#3	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT
#4	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3
#5	7-628-253-00	SCREW +PS 2X4
#6	7-624-104-04	STOP RING 2.0, TYPE -E
#7	7-621-772-10	SCREW +B 2X4
#8	7-621-773-95	SCREW +PTT 2.6X6 (S)

****

Ref. No.	Part No.	Description	Remark
		MOUNTING HARDWARE	
		**********	
201	3-931-986-01	FRAME, FITTING	
202	3-916-012-01	BRACKET (ND), FITTING ASSIST	
203	X-3368-725-1	SCREW ASSY, FITTING	
204	X-3371-913-1	SCREW ASSY (J)	
205	3-388-078-01	KEY	
206	1-776-207-31	CORD (WITH CONNECTOR)	



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XR-6700

SONY®
SERVICE MANUAL

US Model
Canadian Model

SUPPLEMENT-1

File this Supplement with the Service Manual.

Subject :
1. MECHANICAL ADJUSTMENTS
2. ELECTRICAL ADJUSTMENTS

1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment:
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30−65g•cm (0.42−0.90 oz•inch)
FWD Back Tension		0.5−4.5g•cm (0.01−0.06 oz•inch)
REV	CQ-102RC	30−65g•cm (0.42−0.90 oz•inch)
REV Back Tension		0.5−4.5g•cm (0.01−0.06 oz•inch)
FF, REW	CQ-201B	60−200g•cm (0.83−2.78 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 90g (more than 3.18 oz)
REV	CQ-403R	

2. ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

〈Set the Test Mode〉

1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

〈Release the Test Mode〉

1. Push the "OFF" button.

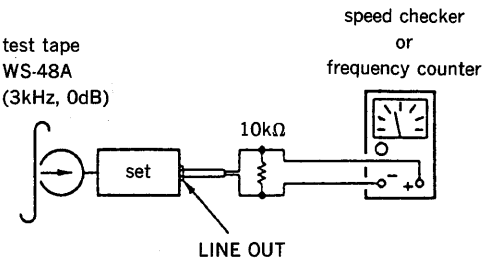
See the adjustment location from on page 3 for the adjustment.

DECK SECTION **0dB=0.775V**

Tape Speed Adjustment

Procedure:

1. Put the set into the FWD PB mode.



Specification: Constant speed

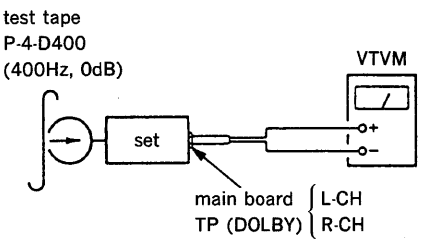
Speed checker	Frequency counter
−1.5 to +2.5%	2,955 to 3,075Hz

Adjustment Location: See page 3.

DOLBY Level Adjustment

Setting:

Preset [3] (DOLBY) button : OFF
SEL (BAS) button : Center
SEL (TRE) button : Center
SEL (BAL) button : Center
SEL (FAD) button : Center
SEL (VOL) button : Maximum

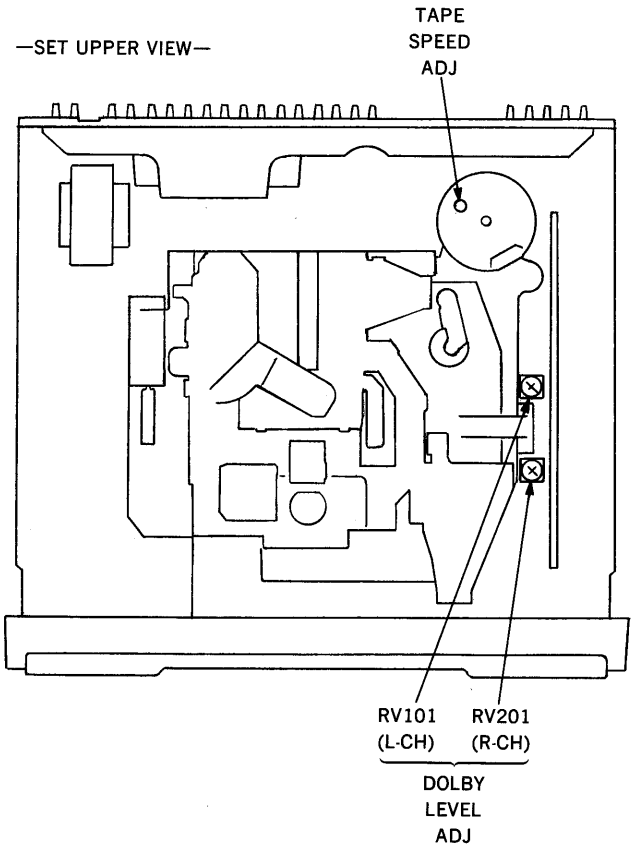


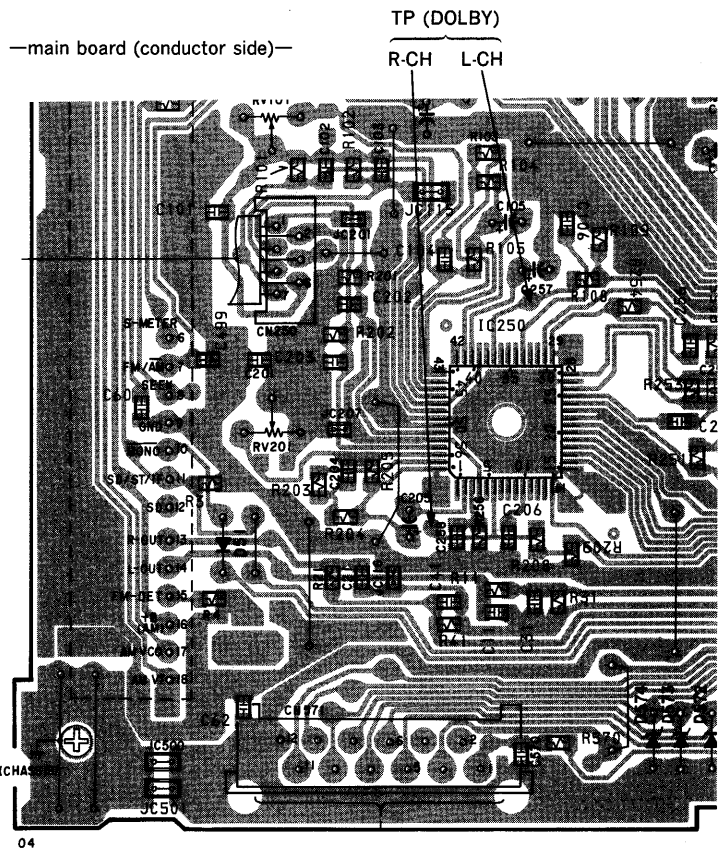
Procedure:

1. Put the set into the FWD PB mode.
2. Adjust RV101 (R-CH) and RV201 (L-CH) so that VTVM reading is −4.7±0.5 dB (0.43 to 0.48V).

Adjustment Location: See page 3.

Adjustment Location :





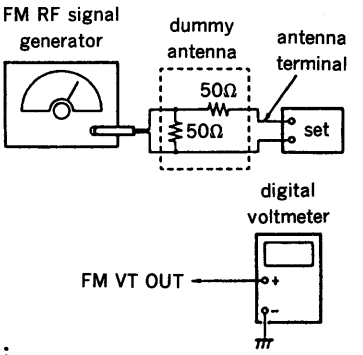
TUNER SECTION **0dB=1μV**

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

FM VT Voltage Adjustment

Setting :

FM button : FM



Procedure :

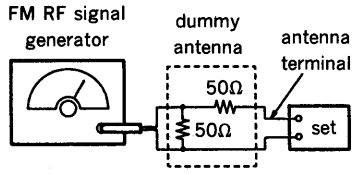
Adjust for the following value reading on digital voltmeter.		
Frequency Display	87.5MHz	107.9MHz
Reading on Digital voltmeter	1.42±0.07V	7.2±0.5V
Adjustment Part	T4	(confirmation)

Adjustment Location : See page 6 and 7.

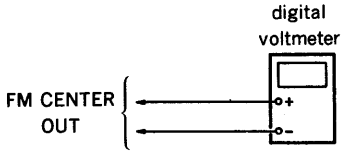
FM Center Adjustment

Setting :

FM button : FM

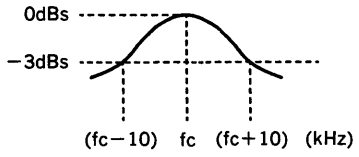


Carrier frequency : 98.1MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 1kHz, 75kHz deviation (100%)



Procedure :

1. Adjust T5 on TU1 so that the reading on the digital voltmeter becomes in 0±20mV.
2. Output an Fcenter 60dB signal output from FM RF signal generator so that the speaker output terminal is 0dBs.
3. Change the FM RF signal generator frequency and check the deviation of the frequency on +side and −side when the speaker output terminal drops 3dB. (Both +side and −side is approx. 150kHz.)
4. Re-adjust T2 on TU1 when the difference deviation of the frequency does more than 10kHz.

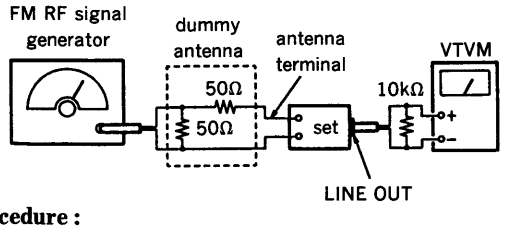


Adjustment Location : See page 6 and 7.

FM SENS/IF Adjustment

Setting

FM button : FM



Procedure :

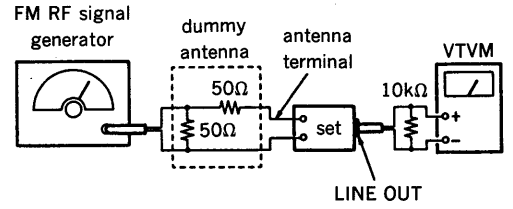
Adjust for a maximum reading on VTVM.
T1-T3
87.5MHz

Adjustment Location : See page 6.

FM High Cut Control Adjustment

Setting :

FM button : FM



Carrier frequency : 98.1MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 10kHz, 40kHz deviation (53.3%)

Procedure :

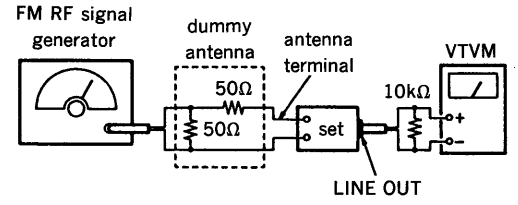
1. Tune the 98.1MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV1 on TU1 so that the output level is (A) −6dB then signal generator input set to 20dB.

Adjustment Location : See page 6.

FM Stereo Separation Adjustment

Setting :

FM button : FM



Carrier frequency : 98.1MHz
Output level : 70dB (3.2mV)
Mode : stereo
Modulation : 1kHz, 75kHz deviation (100%) (L-CH only)

Procedure :

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV2 on TU1 for minimum reading.

L-CH Stereo separation : Ⓐ−Ⓑ

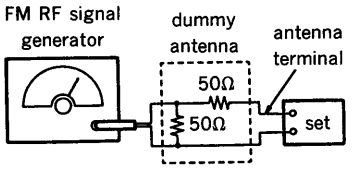
Specification : Separation more than 23dB

Adjustment Location : See page 6.

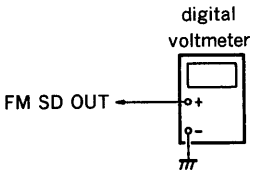
FM Auto Scan/Stop Level Adjustment

Setting :

FM button : FM



Carrier frequency : 98.1MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : 1kHz, 22.5kHz deviation (30%)



Procedure :

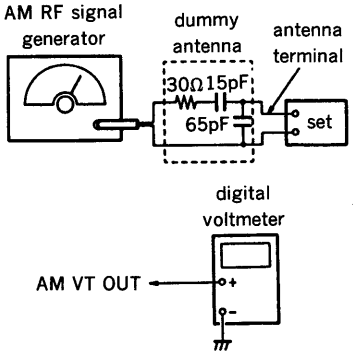
1. Adjust RV3 on TU1 so that the reading on the digital voltmeter changes point from minimum to maximum. (approx. 0.6V)
2. Confirm that the set stops auto-scanning with FM RF signal generator output level set at 22±5dB.

Adjustment Location : See page 6 and 7.

AM VT Voltage Adjustment

Setting :

AM button : AM



Procedure :

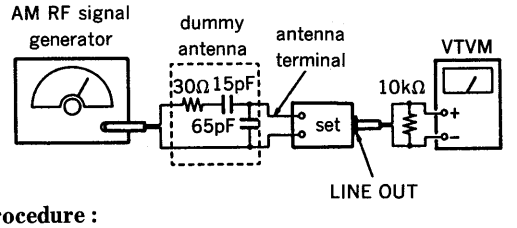
Adjust for the following value reading on digital voltmeter.		
Frequency Display	530kHz	1,710Hz
Reading on Digital voltmeter	1.43±0.07V	6.8±0.5V
Adjustment Part	T9	(confirmation)

Adjustment Location : See page 6 and 7.

AM IF Adjustment

Setting :

AM buton : AM



Procedure :

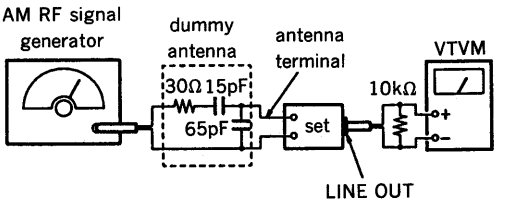
Adjust for a maximum reading on VTVM.
T8
450kHz

Adjustment Location : See page 6.

AM ANT Adjustment

Setting :

AM button : AM



Procedure :

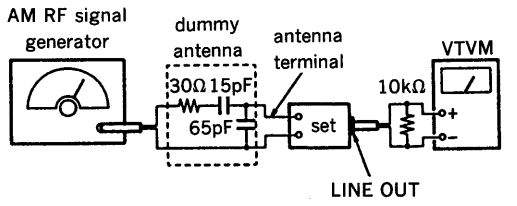
Adjust for a maximum reading on VTVM.
T6
600kHz

Adjustment Location : See page 6.

AM SENS Adjustment

Setting :

AM button : AM



Procedure :

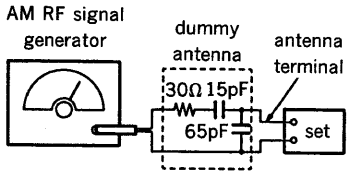
Adjust for a maximum reading on VTVM.	
T7	C91
530kHz	1,710kHz

Adjustment Location : See page 6.

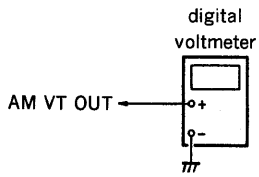
AM Auto Scan/Stop Level Adjustment

Setting :

AM button : AM



Carrier frequency : 1000kHz
30%amplitude modulation by 400Hz signal
Output level : 30dB (31.6μV)

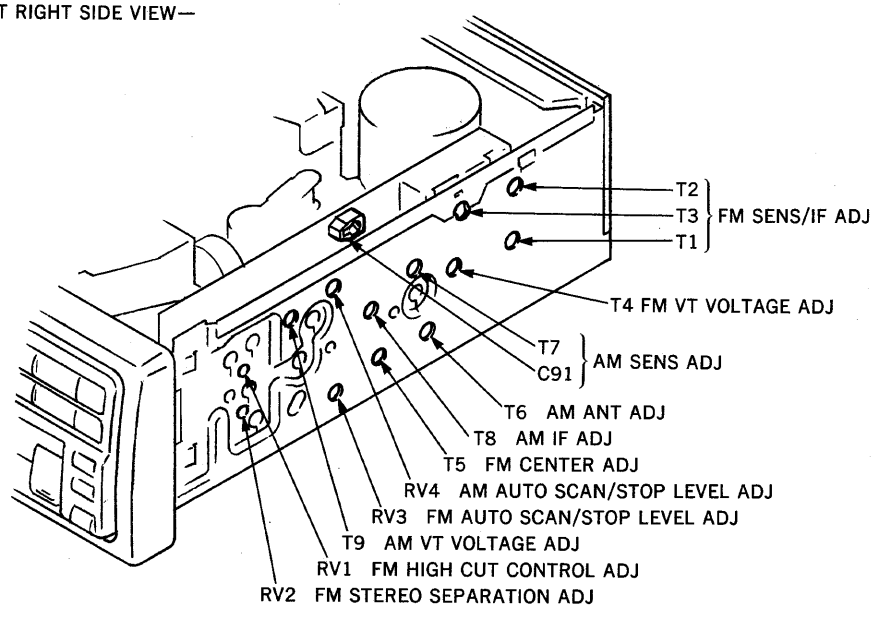


Procedure :

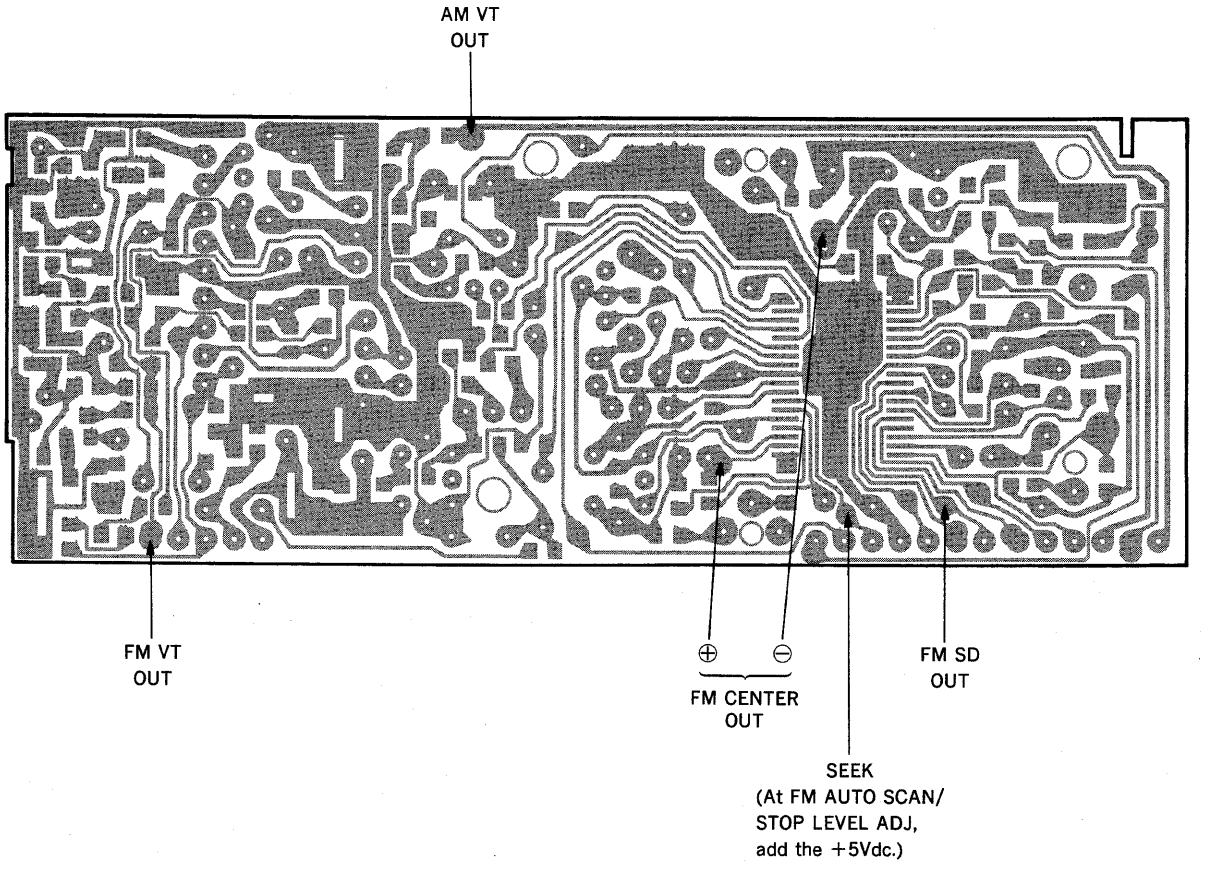
1. Adjust RV4 on TU1 so that the reading on the digital voltmeter changes point from minimum to maximum. (approx. 0.6V)
2. Confirm that the set stops auto-scanning with AM RF signal generator output level set at 33±2dB.

Adjustment Location : See page 7.

—SET RIGHT SIDE VIEW—



Measurement Point Location : tuner unit (TU1)—conductor side—



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